ALLOCATION AND APPORTIONMENT OF FUNDING RESOURCES FOR MILITARY CONSTRUCTION WITHIN THE U.S. ARMY RESERVE

A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE
General Studies

by

GEORGE C. ARVANITES, MAJ, USA
B.S., Iowa State University, Ames, Iowa, 1985
M.A., Webster University, St. Louis, Missouri, 1989

Fort Leavenworth, Kansas
2003

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of Candidate: MAJ George C. Arvanites

Thesis Title: Allocation and Apportionment of Funding Resources for Military Construction within the U.S. Army Reserve

Approved by:

_____, Thesis Committee Chairman
LTC Albert H. Gledhill Jr., M.B.A.

_____, Member
MAJ Cecil F. McLaurin Jr., M.A.

_____, Member, Consulting Faculty
COL William D. R. Waff, D.Min.

Accepted this 6th day of June 2003 by:

_____, Director, Graduate Degree Programs
Philip J. Brookes, Ph.D.

The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

ALLOCATION AND APPORTIONMENT OF FUNDING RESOURCES FOR MILCON WITHIN THE U.S. ARMY RESERVE by Major George C. Arvanites, USA, 59 pages

The United States Army Reserve (USAR) apportions approximately 37 percent of the end strength of the total Army to fill the mission requirements necessary of the go to war Army. However, the total funding outlay provided to the Army Reserve MILCON program is a funded number not to exceed $70 million per annum, which is significantly less then the $10 billion given to the Active Component for support to the, United States Army Corps of Engineers for MILCON. With the new Army “vision” and a need for a streamlined force tailored for both the regional conflict and in support of our war on terrorism. The Active Army force structure is likely to be reduced in size with a similar number of combat support and combat service support personnel shifting to the Reserve Components. Given this proportional shift in end strength, the USAR should be provided with a plus up in MILCON funding. Identifying the process, requirements and funding methodology currently utilized is the primary analysis utilized within this thesis and provides the justification for validation of USAR project requirements. The Active Army MILCON requirements alone seemingly outweigh the needs of the USAR force regardless, and investigation is aimed to point facts at this un-proportionality. This downward spiral is illogical given the current force structure and lobbying efforts ongoing within the active and reserve forces.

ACKNOWLEDGMENTS

Numerous individuals have provided support and encouragement as I completed this thesis. To each member of my staff group whom I randomly picked on, I owe a special debt of gratitude. Additionally, I would like to thank LTC Richard McBride for his insightfulness and informational support.

An exceptionally great debt is owed to my loving wife, Christina, and my two beautiful daughters, Marisa and Valerie. They sacrificed our time together as well as offering extensive support and motivation throughout the entire year. Their inspiration and understanding enabled me to see this through to fruition.

ACRONYMS

AC	Active Component
AFS	Army Facility Strategy
AMSA	Army Maintenance and Support Activities
ARNG	Army National Guard
Base Ops	Base Operations
BRAC	Base realignment and Closure
Civil Works	MILCON funded projects executed in support of civilian infrastructure
CONUS	Continental United States
COE	Corps of Engineers or U.S. Army Corps of Engineers
DEH	Directorate of Engineering & Housing
DOD	Department of Defense
DPG	Defense Planning Guidance
EAC	Echelon Above Corps
FY	Fiscal Year (1 October-31 September)
FYDP	Future Year Defense Program
HQUSACE	Headquarters, United States Army Corps of Engineers
MACOM	Major Army Commands
MCAR	Military Construction Army Reserve
MDS	Modular Design System
MILCON	Military Construction (AC)
MPR	MILCON Program Execution Review

MTOE	Modified Table of Organization and Equipment
MWR	Moral Welfare and Recreation
NG	National Guard
NGB	National Guard Bureau
NMS	National Military Strategy
OCAR	Office of the Chief, Army Reserve
OCONUS	Other then Continental United States
OMS	Organizational Maintenance Shop
PBG	Program Budget Guidance
POM	Program Objective Memorandum
PPBES	Planning, Programming, and Execution System
QDR	Quadrennial Defense Review
RSC	Regional Support Command
RC	Reserve Component(s)
SCIF	Secured Compartmental Information Facility
TOE	Table of Organization and Equipment
TPU	Troop Program Unit
Troop Program Projects	Military Program Projects
UMMCA	Unspecified Minor Military Construction, Army
USACE	United States Army Corps of Engineers
USAR	United States Army Reserve
USARC	United States Army Reserve Center
USARC	United States Army Reserve Command

TABLE OF CONTENTS

TABLES

CHAPTER 1

INTRODUCTION

> As the 21st century approaches, the readiness of U.S. military forces to meet the full range of defense strategy demands has never been more important. Ready forces provide the flexibility needed to shape the global environment, deter potential foes and, if required, to rapidly respond to a broad spectrum of threats. In addition, readiness instills the confidence our people need to succeed in a wide variety of challenging situations. In recent years, Department of Defense policy and budget guidance has explicitly made readiness the top priority. Today's challenge is to maintain this readiness edge while seeking efficiencies and improved operating procedures. (2002 11)
>
> William S. Cohen

Military Construction (MILCON) within the United States Army and the Army Corps of Engineers is congressionally validated and approved each year through the Program Objective Memorandum (POM). The POM for MILCON typically is managed in a seven-year forecasting cycle where the execution year is the first year and year seven is referred to as the out year. Forecasting construction necessities within the Army community extends way beyond the scope of MILCON. For simplicity's sake, MILCON is further subdivided into two defining budgets: Civil Works and Military Construction, of which MILCON Army Reserve (MCAR) is a subset of MILCON.

Year one of the of the "seven-year funding cycle" commences after the first of October of each calendar year and is typically referred to as the execution year. In most cases MILCON projects are typically twelve to eighteen months long, but remain identified from the year construction execution started regardless if it actually initiated on the first of October. Thus a MILCON project identified as a FY 2004 project is projected for execution during the calendar year commencing after 1 October 2004. Additionally,

this can also be a forward-looking process for identification of future year projected and potentially funded construction projects. MILCON projects under construction have already been designed, fully funded, and completed the project award procedures.

Year two of the budgetary POM cycle is the design year. At this point in the process, the MILCON project has already been scrutinized and has completed the detailed “scope-of-work review” and price projection including the area cost factors analysis. Typically 10 percent of the funded value of the MILCON project has been set aside for the complete design. Bid and performance modifications and potential underestimating the contractor’s bid and or award costs has significant ramifications on the discretionary allocations of funds for down the line unanticipated modifications. It can be ascertained that at this stage of the POM process, years one and two projects, both of which have been awarded are progressing through the design and execution process.

Year three of the budgetary POM cycle is most often referred to as the out year. During the out year, the greatest concern to the life of the MILCON project is its sustainability. This project may have been sitting on the shelf-awaiting award for some time and clearly needs to have all documentation updated in order to reflect actual current construction requirements. The third year of the POM cycle is most often referred to as the last safe year on the shelf. MILCON projects, which have survived up to five years or more leading up to this point on the shelf, are twelve months away from proceeding to design. Generally speaking, MILCON projects in the out year are safe from other congressional predators surfing around for outside agency funding support. The headquarters, United States Army Corps of Engineers (HQUSACE) staff has one project officer assigned in support of Congressional lobbying for out-year projects. Upon funding

approval, MILCON projects are in the out year and have only time prior to design initiation.

Years four through seven are somewhat different in the life of a MILCON project. Upon understanding the process, the POM years four through seven and the legal ways of preventing political intervention infusing the budgeting process and inserting a white elephant project which otherwise never would see the light of day on its merit. Each year of the POM process MCAR is typically adjusted to account for a need of approximately $70 million. The volume and number of projects in years four through seven can and do often exceed the $70 million ceiling, but prior to year three no action is taken to influence the budgeting process.

At the point time in the process the MILCON project approaches the design year, it has already been scrutinized and has completed its detailed scope of work review and price projection and area cost factors analysis. Typically, ten percent of the funded value of the MILCON project has been set aside for the complete design. Bid and performance modifications and potential underestimating the contractor's bid or award costs has significant ramifications on the discretionary allocations of funds for down-the-line unanticipated modifications. It can be ascertained that at this stage of the POM process, years one and two projects both of which have been awarded are progressing through the design and execution process. Typically, MILCON projects may be on the seven-year POM funding cycle for more than seven years

The USAR apportions approximately thirty seven percent of the total end strength of TPU soldiers to fill the needs of the go-to-war Army. However, the total funding

outlay provided to the MCAR program is a number not to exceed $70 million per annum, which is significantly less then the $10 billion given to the HQUSACE.

The U.S. Army has changed drastically over the past ten years with respect to its doctrine, size, mission, and deployability. During the Cold War, the focus was on deterring or defeating the Soviet Union, which has shifted today to a more "asymmetrical" global mission of fighting smaller conflicts against less formidable foes anywhere in the world.

The Army of today is thirty percent smaller than it was a decade ago. In today's Army, Reserve Component (RC) soldiers, USAR and NG, outnumber active duty soldiers. At the end of 1996 "the official end of the draw-down years," the Army's Active Component (AC) strength consisted of 491,000; RC contained 596,000 soldiers (O'Neill 1997).

A further breakdown of RC soldiers at the end of 1996 consisted of 370,000 soldiers in the ARNG "Title 32" and 226,000 soldiers within the USAR "Title 10." The significance of the difference between RC USAR title10 soldier and the NG title 32 soldiers essentially becomes an issue of federal government versus state government. Superficially, this does not carry much credence except that the budgets for the USAR title 10 soldiers are rolled up into the AC numbering for essentially all funding actions, to include MILCON. The NG as a state governmental agency has its funding resources apportioned through the National Guard Bureau (NGB) to each of the 50 United States. For the example taken in the paragraph above, the Army's 1997 budget devoted $38 billion to the pay, operations, and maintenance of active-duty forces, but only about $9 billion to comparable spending for reserve forces (O'Neill, 1997). Accelerating forward

to today, the Army budget for FY 2003 is $91 billion, which is up from $38 billion at the end of the cold war (Meghan 2002).

The funding information positioned in the paragraph above is established as a basis of comparison between the AC Army and the USAR. The escalation of the budget from $38 billion in 1997 to the projected $91 billion for 2003, scheduled in begin 1 October 2002, equates to a 239 percent increase over the six physical years, approximately fourteen percent annually. If all were to hold true, the USAR should be apportioned roughly $22 billion in resources for FY 2003. This number has been evasive to date; however, it should be ultimately obtainable through the FY 2004--FY 2009 budget allocation numbers later on in further research. Clearly, from instruction given at the Command and General Staff College, and from the events of 11 September 2001, more changes in the force structure are lurking around the corner. How this will influence the Active and Reserve Components and their funding requirements are yet to be seen; however, for the first time in perhaps the last six years, the United States of America has reentered into deficit spending.

MILCON is typically divided into two distinct categories, Civil Works or Troop Program Projects. MCAR, to be described in depth later in this thesis is a subset of the Active Component Army's Troop Program Projects. However, the MCAR budget, project design requirements and execution management is managed independently through the Office of the Chief, Army Reserve (OCAR). The MCAR staff at the OCAR office is located in Washington, D.C., and mirrors the Active Components Engineer District offices to a lesser degree. The MCAR staff, however, manages exclusively "Military Program Projects." MILCON within the Army Reserve provides engineering

support to USAR “Specified Installations,” Organizational Maintenance Shops (OMS) and Army Maintenance and Support Activities (AMSA).

The Headquarters, USACE is this nation's premier federal government construction organization, which oversees virtually every type of federally funded construction. In its capacity, the Army’s Corps of Engineers not only designs and executes construction management, but also acts as the “liaison” between the federal government and the civilian community at large. It is difficult to comprehend the size and scope of work associated with the United States Army’s Corps of Engineers. Suffice it to say, if construction is executed with federal funds, it is likely to be associated with the HQUSACE.

Civil Works

The Army Corps of Engineers, Civil Works, is an organization in and of itself. The magnitude of which is essentially federally programmed funds executed through the civilian community within the continental United States and overseas continental United States. The Civil Works aspect of the Corps of Engineers is focused geographically throughout the 50 United States and overseas with 141 separate engineer districts. A nonexclusive list of major projects which the Army Corps of Engineers, Civil Works staff could be working on would consist of new water-related missions in such areas as flood control, shore and hurricane protection, hydropower, recreation, water supply and quality, and wetland protection and mitigation. Essentially any federal roadway network, rail hub, or navigation system constructed with federal funds or any port and harbor system, locks and dams on the inland waterways can be built by the Civil Works project managers (AR11-18 1995). The Civil Works aspect of the Corps of Engineers employs civilian

expertise in the management and oversight of federally executed funds. MILCON on the numerous installations within CONUS and abroad, appears essentially the same, but are drastically different from an appropriations perspective.

MILCON Troop Program Projects

The Military programs mission is to provide engineering, construction, construction management and environmental services for the Army and the installation infrastructure (HQUSACE 2002). The Military Programs Management Division functions for the Army, Department of Defense (DoD), and interagency and international services customers and employs different management techniques based on customer requirements (HQUSACE 2002). From the most recent Army white paper, the "Army Vision" calls for transforming the current "Legacy Forces" as rapidly as possible, while maintaining the war-fighting readiness of its operational units. The HQUSACE mission is to support Army transformation through professional, cost-effective and timely engineer support across the full spectrum of operations (HQUSACE 2002).

MILCON, Army Reserve

The MCAR program is a subset of the Active Component's Army Troop Program Projects. The MCAR project, budget, design requirements and execution management, is managed independently through the Office of the Chief, Army Reserve, as mentioned above. MILCON within the Army Reserve, (MCAR), is significantly less focused on the installation infrastructure which would provide housing, exclusive rights utilities, base operations and support activates, and potentially the MWR requirements. Again, as mentioned above, the focused construction of the USAR mission requirements includes:

United States Army Reserve Centers, Organizational Maintenance Shops, and Army Maintenance and Support Activities facilities.

The approximate 200,000 soldiers in the USAR are apportioned between the ten Regional Support Commands (RSC), eight within CONUS, one in Europe and one headquartered in Puerto Rico. Each of the RSCs is a two-star general officer command, with a general staff consisting of the typical G-1 through G-5 found at any division. The Deputy Chief of Staff, Engineer, maintains a plans and programs section, which monitors the MCAR construction program for their contiguous states. The significant difference between the AC installation and the RC's Regional Support Command is that each of the RSCs unit infrastructures is dependent upon the citizen-soldier for strength reporting and unit composition.

Although this logic trail is digressing somewhat from its initially intended direction, the perspective needing emphasis is this. The composition of an infantry division, each of maneuver brigades, should for the most part, resemble one another. In the Army Reserve, each of the RSCs clearly do not. In fact, each of the Regional Support Commands have significant differences with respect to geographical composition, size, and units of assignment. How then does all of this information on RSCs, unit size, and construction requirements tie together?

MILCON within each of the RSCs is thus tied back to the "Master Plan," or the "Vision," as generated by the Plans and Programs section of the Deputy Chief of Staff, Engineer directorate. Construction requirements, USARCs, OMSs and AMSAs are positioned to adequately provide coverage within the RSC to meet the specific needs of the RSC and its commander. Construction estimates, from the RSC's "Master Plan," may

additionally take into account: acquisition, expansion, rehabilitation, and conversion of facilities for the training and administration of the Army Reserve. The requirements for funding support and modification of preexisting USAR facilities are the same as those of the AC (AR 140-483 2002). Each of the Regional Support Commands is required to maintain, as a minimum, ten project folders as addressed in their "RSC Master Plan" identifying the most significant needs of their organization. There is no real ceiling on the number of projects an RSC may have validated and identified as a need. However, reality indicates that a budget of $70 million, which is already constrained, can be adequately adjudicated by an unlimited number of project submissions.

After all, each of the ten Regional Support Commands has addressed their needs by an approved "Master Plan," and validated the requirements for construction in its project folders. The RSC priorities their top ten submissions and forwards the complete package to OCAR where they are consolidated collectively and evaluated based on their individual merit. The OCAR staff, in turn, evaluates all of the project folders for validity and prioritizes the complete listing based upon a Congressionally preidentified funding cap of $70 million per year for the entire Army Reserve wide. As mentioned previously, the projects under construction and those currently in design are fully funded and considered to be under execution. The next five years of the POM process are iterative in nature and have a tendency to fluctuate from year to year.

As mentioned in the past the approved POM for the MCAR program is approximately $70 million as published for FY 2003 (as of 1 October 2002). For the projects under execution, this number is extremely rigid and lacks essentially no discretionary funding. The MCAR projects under design have already been

Congressionally approved and have been awarded with a funding cap as addressed in the project folder submission as of 1 October 2002, for FY 2004 requirements. Typically, small vacillations occur between the requested finding for the projects from the design estimates and the projected cost requirement prior to design. The nature and scope of discretionary funding between projects under design and the Congressionally solicited cost exceeds the authors current research, however, effort will be made to endeavor, and find this mechanism in defense of this thesis.

Where the true challenge exists in the scenario being described occurs, is during the solicitation before congress for the "FY 2005 MCAR Project" requirements approval (as of 1 October 2002). Armed with a prioritized MCAR listing for projects for years FY 2005 through FY 2009, each at approximately $70 million per year. Congress is briefed on the nature, need, and justification for each project within the Army Reserve community. It becomes apparent that a careful scrutiny is made of the project folder submissions during the OCAR validation and prioritizing process. The Army Reserve becomes a political animal, while the solicitation process is under way because research indicates that the nature of the MCAR project does not necessarily concern the Congressman as much as the states which get support and those that do not.

The "Stacking" of the projects for the FY 2006 through FY 2009 requirements is much more subjective and not rigidly constrained to the $70 million per year funding cap. This process is continuously updated at the RSC and OCAR level with respect to project folders and annually for the projects prior to solicitation before Congress. The stacking of out year requirements is a dynamic environment, and it has been said that projects can

move up or down in the “Future Year Defense Program” (FYDP) listing prior to congressional approval.

An additional issue, which has apparently convoluted the MCAR program in the past, has been the Base Realignment and Closure program (BRAC). Again, the Army Reserve becomes a political animal on the congressional agenda of numerous states, as each try diligently to protect vital jobs for each of their state continuants. It has been said that as an individual state lost its battle to protect its good military installation, the Reserve Components first right of refusal for the property became much more a way of protecting jobs than the need to support the force (AR 405-10 1970). As such, the USAR could or might loose MCAR funding in favor of a BRAC facility, which could be in need of considerable repair and infrastructure.

Transitioning to the Design and Execution

As part of the initial MCAR project folder submitted and maintained at both the RSC level and at Washington at OCAR, included is an initial design (generally considered 10 percent) or a “conceptual” design. The concept design takes into account all of the common and shared office spaces authorized under Army Regulation AR 140-483, Army Reserve Land and Facilities Management, Appendix B, based upon a summation of personnel and equipment from the TOE or MTOE (AR 140-483 1994). Additionally, the authorization for office space may be increased to address a specific mission requirement based upon the units to be assigned to the facility. For example, a USAR organization which functions at EAC for command and control, may be required to have a Secured Compartmental Information Facility in support of war plans analysis and discussion of top-secret information. The ten percent conceptual designed is

developed under the auspices of a computer rendered drawing program known as the Modular Design System (MDS), similar to a civilian world counterpart “AutoCAD” or “Microstation” drawing program. In lay terms, the authorizations from the TOE or MTOE generate common and private office spaces, which MDS allows the designer to move around on paper space, and design a facility similar to what is done in AutoCAD.

Transitioning to the MCAR design process and execution of construction management become somewhat of a joint operation between the USAR and the AC, Army Corps of Engineers District. At this phase of the process, generally speaking project visibility at the RSC level occurs during the out year and upon notification of the approved Future Year Defense Program (FYDP), transitions to design after 1 October 2002, for the FY 2004 MCAR project as described in preceding paragraphs above.

The MCAR project transitions from a conceptual design to a buildable set of drawings over the period of about a year prior to the 1 October date for commencement of execution. The OCAR staff along with the RSC staff is assigned a Corps of Engineer district for execution of the “Architect and Engineering” (A/E) blueprints. The shared nature of the AC Army Corps of Engineers, and the RC MCAR project managers is what is often refereed to as the joint nature of a MCAR project. It is worth pointing out, that it is a requirement for the USAR to utilize the Army Corps of Engineers as the MCAR, A/E for design oversight and project management. As previously mentioned, federally appropriated “construction” funding is mandated to utilize the U.S. Army Corps of Engineers. Research and investigations seemed to indicate that this is a cause of disagreement within the MCAR environment. Although not entirely true across the entire

spectrum, it appeared that if given exclusive design authority the RSC might choose to work directly with a civilian hire A/E firm, vice working with the HQUSACE.

As the design process continues, there are a series of iterative reviews with all parties involved; OCAR, the RSC, the U.S. Army Corps of Engineers, and representatives from each of the units programmed to use the facility upon completion. The schedule for the completed design has milestones associated with it established 1 October, which are generally 30 percent, 60 percent, ninety percent, and 100 percent reviews. The initial reviews typically are the most important as they set the tone, establish the requirements, and often put faces to the names for each of the units scheduled to occupy the facility.

Upon successful conclusion of the design process, complete drawing sets are sent out for competitive biding to the public at large. In the best case, this process will be concluded within ninety to one hundred and twenty days prior to the new FY date, 1 October 2003 for FY 2004 funded projects. The bidding process generally takes not less than ninety days and potentially longer if none of the submissions are returned within the Congressionally funded limit. If in the event of the worst case scenario and the bids are returned without any awards due to insufficient funding, concessions can be made to reduce the scope of work of the facility to meet the lowest bidder. This rational does not make good engineering logic and may ultimately deprive the occupants of specific mission essential physical building requirements which could significantly reduce their training and production capabilities. These decisions cannot be made in a vacuum, which they often are because the design reviews have concluded.

During the execution phase of the MCAR project, the OCAR Project Manager acts in direct oversight throughout the execution phase of the construction mission and maintains this responsibility through completion and project acceptance. The scope of work includes: payouts, contract management, quality assurance, federal and state regulations, project costs, claims or disputes between the RSC and the contractor, project status, contractor evaluation, and the additional responsibility for coordinating any issues with Congress (AR 415-15 1998).

Additional appropriations for MILCON, which have not been expounded upon up to this point, include Congressional Adds. Congressional Adds are almost blind luck, and have apparently been added to the MCAR list several times over the past few years. Congressional adds typically are identified by projects, which are on the OCAR priority list, but are several years away from going to design. These congressional adds are projects, which are typified by an obvious need and by an initial low estimated cost.

Another additional measure used to have projects added to the Army Reserve MCAR funded project listing includes; Minor MILCON. Minor MILCON is also a blind luck propositions in that it becomes available typically during the last thirty days of the FY and is generally limited to under $1.5 million. Additional adds are difficult to account for due to their inconsistency and funds availability. The OCAR staff, which is required to maintain all of the ten of the RSC submissions, most likely keeps a few low cost estimate projects on the shelf ready for just such an opportunity.

Research Limitations

During the initial preparation of this thesis, numerous methods of MILCON interpretations have since been revised and updated, especially within the USAR and

MCAR construction processing. As such, the significant limitation for this manuscript is that of information collection, and data interpretation will be limited to that available prior to 1 October 2002. One specific example that clearly identifies this needed limitation is in the area of Base Operations and support of MCAR projects within the USAR. Prior to the 1 October 2002 date, MILCON had been controlled through the Regional Support Commands; however, this issue is in a state of dynamic change and it would be impossible to accurately introduce all of the numerous new proposals to accurately reflect currently proposed modifications.

CHAPTER 2

LITERATURE REVIEW

After having written chapter 1, the investigation and research for chapter two instantly realized a distinct limitation existed in the number of relevant resources and publications on the topic of MILCON. Initially, this premises was supported by the fact that nearly one hundred Master of Military Arts and Science (MMAS) thesis had been written and subsequently approved for award by the Command and General Staff College generated by U.S. Army engineer officers. Superficially, however, the majority (all but two) was awarded to Engineer officers on the basis of a tactical or historical subject not relevant to a technical review. This initiated a further inquisition to the determination of funding vehicles for answering the primary research question on percentages on requirements.

MILCON Guidance and Program Relationships

MILCON appropriations provide funds for specific Army construction requirements. These requirements are contained in the *Defense Planning Guidance* (DPG) as part of the Department of Defense (DOD) Planning, Programming, and Budgeting and Execution System (PPBES). The *DPG* provides a construction program that is consistent with current Army plans, resources, and budget objectives. The *DPG* is the basis for the more detailed Program Budget Guidance (PBG) that outlines the missions and levels of activities for Major Army Commands (MACOM) and agencies. MACOM commanders, in turn, prescribe strengths and missions to subordinate installations and activities, based on the PBG.

Unspecified Minor Military Construction, Army (UMMCA) guidance or Unspecified Minor Military Construction, Army Reserve (UMMCAR) entails different requirement documents. Unlike major MILCON projects, individual UMMCA/R projects are not specifically identified in the DPG budgets or programs. They are submitted on an "as required" basis by each programming MACOM. These typically are construction projects identified with a cost not to exceed $1, 500,000.00.

MILCON Program Execution Review (MPR) is a conference held one or more times a year for the MCA program. The conference is held in various locations, depending upon the MACOM involved and project location. The MPR for Active Army and Army Reserve programs are scheduled as needed. Attendance is comprised of members of the Headquarters, Unites States Army Corps of Engineers (HQUSACE) and of staffs directly involved with the management of the program, representatives from HQUSACE MSCs, plus the cognizant geographic USACE districts responsible for project execution where appropriate. In addition, representatives from the Office of the Assistant Chief of Staff for Installation Management for programming input, representatives of USAISEC familiar with program information systems requirements, and representatives from the engineering staffs of the MACOM. At these conferences, active design programs and projects under construction are reviewed on a line item basis to identify any problems in project execution. Projects under construction are discussed only if cost and scheduling issues exist which need to be addressed in this forum. Discussions are intended to be candid and result in either on-the-spot resolution of problems or tasking to the responsible organization. The MPR normally cover projects in

the prior and current years, plus two years forward programs. Projects to be reviewed are identified in advance of each MPR.

Documentation for the requirement for a project is normally identified by the user at the installation or MACOM level. This requirement is documented on a project DD Form 1391 and submitted to higher command levels for approval. Project justifications are reviewed at MACOM, U.S. Army Corps of Engineers (USACE), Department of the Army (DA), Office of the Secretary of Defense (OSD), and Congressional levels. An exception to this procedure is the Army portion of the Medical MILCON (MED MILCON) program, whose DD Forms 1391 are initially generated by Office of the Assistant Secretary of Defense, Health Affairs (OASD(HA)).

Army Regulation 415-15

This Army regulation assists installation programmers in preparing and updating Department of Defense (DD) Forms 1390 and 1391 prescribed by AR 415-15 and supplements AR 415-15. It provides information for individuals at all levels who are involved in MILCON programming. In addition, this pamphlet explains how to utilize the DD 1391 Processor System (DD 1391 Processor) to document requirements necessary for the submittal of programming requests for MILCON projects through the development of DD Forms 1391. It also permits installation programmers to update information used as a basis for prior year submittal of the installation prioritized construction list through updating of DD Forms 1390.

DD Form 1391 and update DD Form 1390 for the Army MILCON program can be a laborious process is defined in AR 415-15. This process consists of MILCON, AC (MCA); Army Family Housing (AFH); Medical MILCON (MED MILCON); BRAC;

MCAR; and MILCON, ARNG program projects, although the latter two elements do not use the DD 1391 Processor system for program preparation. It describes the complete project justification process and the automation capability available through the DD 1391. The program needed to prepare or update DD Forms 1390 and 1391, as well as essential data and reporting requirements are readily available at the installation or MACOM DPW. It will be useful for all persons involved in Army construction program development and execution, from those who assist in providing data to those who make decisions using results of the forms preparation. Procedural guidance contained in this army regulation assist project programmers in preparing DD Forms 1391 for nonappropriated funds (NAF) as well as other construction programs.

Limitations

Any statutory or administrative limitation on the cost of construction must embrace all related costs, current or future. For further information, the MILCON codification act and annual MILCON authorization and appropriation acts provide specific guidance. Fund authorization documents available at the resource management office of the construction agent generally are made available based upon geographical locations and cost of living areas.

Army Facility Strategy

The Army Facility Strategy (AFS) is the centerpiece of the OCAR's effort to improve USAR facilities from an overall average rating of C3 to C2 (AR 140-483 1994). This concept is the cornerstone to the overall vision of installation management army wide. The visions interpreted for this research is to support the soldiers and installations with a quality infrastructure and services integral to readiness of the force in a number of

ways. First, adequately maintaining and repairing facilities on an annual basis, which are the sustainment costs and investments which are outlined in the army facility strategy. Second, efficient use of available facilities will reduce the Total Army overall footprint through demolition and future base closings and realignment (BRAC). Third, privatizing facilities and functions where it is feasible and makes economic sense, like family housing and installation utilities. Fourth, implementing the best business practices such as establishing baseline services across all army installations both within the USAR and on active army posts.

The installation long-range plan, or the USAR facility master plan provides a strategic guide to the management, improvement, and development of installation infrastructure. The AFS outlines sustainment and investments costs required to support infrastructure normally managed by Army funding sources. Not included within this strategy is a discussion of current programs well underway to reaching their objectives (i.e., barracks modernization and strategic mobility programs). The AFS addresses the funding needed to sustain, restore, and modernize USAR existing facilities as well as providing investment streams for quantity shortfalls and impending new mission requirements.

The Army's long-range roadmap for improving USAR facilities over a 20-year period is consistent with DPG including AC and RC focus investments on selected facilities like the barracks and strategic mobility programs. These sources are funded and executed through both Operations and Maintenance and MILCON funding specific objectives under the AFS.

The AC long-range roadmap includes amenities to fully sustain required facilities as a means of halting deterioration, protecting investment, and maintaining quality of life to meet the DPG goal to restore and modernize the Army's existing assets by recapitalizing our facilities on a 67-year cycle starting in FY2007. To meet the DPG goals, a reduction in the quantity backlog of operations and maintenance specific actions is mandatory. Simultaneously, the added requirement of improving the overall average quality of our facilities to C2 by the end of 2010 will exceed the current DPG goal.

The Army's long-range roadmap also includes a reduction in facility shortfalls (deficits) over the next 20 years. For the USAR, this potentially could mean the addition of antiquated facilities transitioning under BRAC for RC utilization. Adding new facilities to support new mission requirements such as transformation and new unit set fielding may have to be realized at the cost of the USAR facility modernization.

The quality backlog and a portion of the quantity shortfall objectives will be achieved through focused investment of selected facilities. The AFS has changed from previous years. In the past AFS addressed sustainment and quality and quantity improvements only. The AFS now includes all investments required to provide quality facilities normally managed by Army funding sources. This manuscript will briefly explain the sustainment, recapitalization, new mission, and quality and quantity shortfall objectives. Listed in tabular format within table 1, are the Army's past, objective, and current standards for the Army funding sources in support of all components MILCON programs at the facility, installation and major Army command levels.

Table 1
AFS Projected Changes and Goals

Objective	Previous AFS	Current AFS
Fund Sustainment	100%	100 %
Recapitalization	None	67-Year Cycle
Quality Backlog	30-year focused investment, C2 by 2032	C2 by end of 2010 (Focused Investment)
Quantity Shortfalls	30-year focused investment, C2 by 2032	Reduce in 20 years, C2 by 2023
Meet New Mission Requirements	None	As Required

Source: Army Facility Strategy, Schmidt, W. A., Military Construction Requirements and Funding for focused AFS, OCAR ACSIM, OCT 02, 5.

Sustainment

Sustainment covers maintenance and repair activities necessary to keep an inventory of facilities in good working order. It includes regularly scheduled maintenance and major repairs or replacement of facility components that are expected to occur periodically throughout normal service life. Due to obsolescence, sustainment alone does not keep facilities “like new” indefinitely nor does it extend the service life of facilities. Lack of full sustainment results in loss of expected service life of any facility AC or USAR. Sustainment requirements are annual requirements and are developed using the Army Installation Management Headquarters Information (AIM-HI) model. The Army’s goal is to fully fund sustainment by fiscal year (FY) 2005 and maintain that funding level there after. Currently research indicates our facilities are at approximately 91 percent of our sustainment requirement for FY 2002. This produces an average annual requirement of approximately $2.6 billion, FY 2002 dollars, and is funded on average, at about $2.1 billion annually through POM FY 2004--FY 2009. An increase on average, of $500

million annually Army wide is required to bring sustainment to 100 percent funding levels to prevent deterioration and protect investments made in restoring, modernizing and providing adequate quantities of facilities. This program is normally funded through the Army's Management Decision Package.

Recapitalization

Recapitalization is a major renovation or reconstruction activity, including replacement of individual facilities, necessary to keep an existing inventory of facilities modern and relevant in an environment of changing standards and missions. Recapitalization extends expected service life or restores lost service life for both the facility and installation. Recapitalization covers restoration and modernization of existing facilities but does not cover acquisition of new facilities or demolition of old facilities. The recapitalization rate is defined as the number of years it would take to regenerate the physical plant, either through replacement, or major renovation(s) at a given level of investment. The DPG established a goal of reaching a 67-year recapitalization rate by FY 2007 and maintaining that rate thereafter. Research indicates that this would require an annual investment of $2.3 billion. The recapitalization rate for FY 2003 is 123 years, improving to 83 years by FY 2007 and with a glide path to reach a 67-year rate by 2010. This is three years longer than the AFS current objective. In general, MILCON funding, supplemented by Operations and Maintenance, will be the primary means by which the Army will implement this goal. There are several requirements documents that will contribute towards this objective.

New Mission Requirements

The Army will continue to transform and modernize as a whole. This will require us to build facilities where none have existed in the past or convert existing facilities to support these new missions and modernized weapons and equipment maintenance systems. New mission programs included in the Army transformation, support to new aviation and weapons systems and training initiatives. These programs are funded through several methods that will contribute towards the objective and are administered through a number of Program Evaluation Groups (PEG) that will prioritize and fund pieces of this objective.

Quality Backlog

Restoration and modernization are defined as improving facilities to meet current standards and adapting facilities to meet new standards. The current conditions of our facilities within the total army generally is C3 overall, and will require us to address a quality backlog and restore our facilities to an overall average C2 condition. The goal, as outlined in the DPG, is to reach this overall average rating by 2010. The Army plans to reach this goal by bringing selected facility types to C1 by 2010.

Reduce Facility Quantity Shortfalls

The Army has critical shortfalls in square footage deficits in several key facility types and has established a goal to reduce these shortfalls by reaching an Installation Status Report quantity rating of C2 over twenty years, to FY 2023. Both the general revitalization program under MILCON and the focused AFS program will be used to reduce facility shortfalls within the total Army over the twenty year timeframe of this

objective. The focused AFS program will concentrate on facility shortfalls within the focused facility set.

Focusing Investment to Quality Shortfall

The quality backlog objective and a portion of the quantity shortfall objective will be achieved through focused investment of selected facility types. The installation status report (ISR) was used to determine those facility category groups (FCG) at the Army level that were in the worst quality and quantity condition (C3/C4) and the highest cost to improve. The facilities meeting this criterion and having the biggest impact total Army wide will be identified first. This program is funded through the Army's Management Decision Package.

Focused investment costs

To determine requirements on an annual basis across the POM and the timeframe for quality and quantity improvements, these lump sum costs were spread over seven years for quality since the time frame for this objective is 2004-2010 and 20 years for quantity since the timeframe for this objective is 2004-2023. These annualized requirements were adjusted to take into account that a large increase in requirements in the early years of the POM would have required planning and design which has not been accomplished and is no longer feasible. Currently, the focused AFS program for both quality and quantity is funded at twenty nine percent of its requirements across POM, FY 2004-2009.

Additional Information

The prioritization process for the Active Component portion of the focused investment is detailed and difficult to interpret. In addition, the capital investment

strategies for each focused facility types are under constant development and, once finalized, should become available in early FY2004.

Summary

The last 10 pages of material listed above on the MILCON program are compiled research notes within the USAR, MCAR, and AC equivalent MILCON administered by the HQUSACE. Research indicates that adequate literature is difficult to obtain of significant similarity between the two programs. The generalized examples used within this manuscript on the preceding pages still need to be substantiated and populated with real world data. The FYDP listing, and the POM for the next few iterations for both MCAR and MILCON is the direction the comparisons within this thesis will be drawn to for future comparison.

The methodology employed for the remainder of this research will consist of both primary and secondary sources. The source primary research will be directed to the MCAR staff at the OCAR. Concern exists as to whether or not this information may be classified; however, current year statistics will be used as the basis of comparison and should prove to be adequate. The MCAR staff in Washington, D.C., is much smaller the HQUSACE staff, however, it is intended to reach this office as well. If a focal point at HQUSACE is not obtained, older data is available which will become transparent in subsequent chapters.

Literature will continued to be amassed to continue in the literature review process through the completion of this thesis, until such a time that conclusive evidence is determined supporting the primary research question. Unlike history manuscripts, this thesis will not have a significant number of books as resources if any at all. To date, most

of the secondary research has been exclusively the downloaded publications received during initial request for support from the Combined Arms Research Library and personally collected ARs, professional periodicals, and web sources.

CHAPTER 3

RESEARCH METHODOLOGY

The methodology utilized for the purposes of examination on this topic for presentation for this MMAS in Military Construction is by examining the specific information contained within the primary research question and by drawing a comparison and contrast for further investigation in the next chapter. The primary research question asks, Are the allocation and associated percentages of funds provided through the POM parceled out in support of the MILCON program appropriate for the Army Reserve? Different from most of the MMAS thesis contained within the Combined Arms Research Library at the Command and General Staff College previously written on derivative issues on similar subjects, this thesis investigation contains but one secondary question; "What are the funding requests, awarded amounts and percentages of need for each year of the POM cycle for; a. MCAR (USAR), b. MILCON (Active Army), c. MILCON, (Army National Guard)."

In support of this primary research question, attached as appendices are the new Future Year Defense budget for FY 2004 through FY 2009 for MILCON for the United States Army, United States Army Reserve, and the Army National Guard in support of the missions for the HQUSACE; see appendix A. The MILCON budgeting process is not a straightforward application of logic in a similar fashion to what many may be acquainted with in a non-Congressional budgetary process. In support of a lay definition of the MILCON funding process and procurement, a simplified personally developed critical thinking model has been created and included as appendix D. This appendix is

developed to outline the doctrinally mandated areas of emphasis and those which ultimate are awarded, funded and constructed. This outline as shown in appendix D, is original thought and has been included in this thesis to identify and development the logical flow of MILCON funding acquisition.

Quadrennial Defense Review

The Quadrennial Defense Review (QDR) within the Department of Defense serves as the governmental precursor to the secretary of defense's written National Military Strategy (NMS), which in turn is interpreted by the Chief of Staff, United States Army for his use in writing the Army's master plans or for better terms, the Army Vision. It is, therefore, the best place to start to investigate the questions and answers to apportionment within the United States military and the issues of many bigger questions.

With the extreme measures our country is taking in the aftermath of the actions of 11 September, the focus within the United States Army has been myopically focused on the Homeland Defense and the modernization of the Army with the Objective Force. The President of the United States has taken the nature of the heinous acts committed by rouge nations and third world countries as a threat to world peace and the livelihood of the entire American way of life. The stand up of the new unified command, North American Command, (NORTHCOM) does not come without a cost to other projects and requirements which may have been in the budget for execution in upcoming years which ultimately may now be shelved in support of these new overriding, national and in some cases global, requirements. The QDR does contain specific verbiage in support of a strong homeland security and measures to strengthen our military at large. The United States Air Force, which is always a leader in the developmental and use of new fighter

technology, may very well have profited in support of some funding for their new projects to meet FY 2004--FY 2009 USAF objectives/desires.

How then does the QDR look at the MILCON program within the United States Army and the USAR and its demanding requirements? Construction, replacement, and revitalization of facilities, and the cost of operating an aged inventory of installations and facilities is significantly higher than the cost of operating a more modern inventory, so the savings realized by not making construction investments are lost to higher operating costs. In a nutshell, this is the dichotomy of the MILCON program. As the facilities and infrastructure of an aged inventory worsens, will this make us less ready to fight and win our country's next war?

The DOD and the QDR have conveyed an emphasis on the procurement of new, modern weapons systems. These same budgets have not placed the same priority on housing these new modern weapon systems and the people that ultimately will operate them in modern facilities and their general living requirements. In essence the DOD and the QDR have not provided a program and budget with sufficient funds to control the aging of the facilities, inventory, and eventually reduce the average age to a level consistent with a modern, effective, and efficient military organization.

In an article written for the Democrat Leadership Council's magazine, Steven J. Nider made the comment, "Democrats need to begin rebuilding bridges to the men and women in uniform" (Nider 2002). Recent world events and successes in military operations like Desert Storm have decreased the partisan identification in the military that may go back to the Vietnam War or prior. The comments by Steven J. Nider are broad generalizations and can be interpretive to both Democrats and Republicans alike.

Although political parties do influence the desired direction of the government, this statement paints a political opinion of the nature of “need” within the MILCON program.

As the 21st century approaches, the readiness of U.S. military forces to meet the full range of defense strategy demands has never been more important. Ready forces provide the flexibility needed to shape the global environment, deter potential foes, and if required, to rapidly respond to a broad spectrum of threats. In addition, readiness instills the confidence our people need to succeed in a wide variety of challenging situations. In recent years, Department of Defense policy and budget guidance has explicitly made readiness the top priority. Today's challenge is to maintain this readiness edge while seeking efficiencies and improved operating procedures (Nider 2002).

The DOD and the military facility at large manage the world's largest dedicated infrastructure, covering over 40,000 square miles of land and a physical plant worth over $500 billion FY 2000 costs. MILCON appropriations provide a large part of the funding to maintain this infrastructure. The MILCON and MCAR construction projects and real property maintenance of the AC Army, USAR defense-wide construction, and military family housing operations and construction are dependent upon appropriations as requested and required by the installation and MACOM. The authorization and support for this funding is given its power for direction through the QDR.

MILCON appropriations are only one of several annual pieces of legislation that provide funding for the national defense of the United States. Other major legislation includes the defense appropriations, national defense authorizations and energy and water development appropriations. The separate MILCON appropriation dates historically back to the 1946 with the separation of the U.S. Air Force as a separate military service.

MILCON appropriations are the major source of funds for facility investments by the military services and defense agencies. Defense appropriations via the QDR, provides the funding for the construction and maintenance of the U.S. Military.

To be discussed later in the National Military Strategy (NMS), most funds appropriated by Congress each year must be obligated in that fiscal year. MILCON appropriations are one of the few exceptions. Consideration of the MILCON budget starts when the President's budget is delivered to Congress early each year. For FY 2001, the President requested $8.0 billion in funding for the MILCON program for all of the branches and components of the military.

National Military Strategy

The Army plays a vital role in the execution of the NMS. It provides flexible military capabilities across the full spectrum of military operations, from humanitarian assistance to all theater of war combat operations (NMS 2002). The Army must sustain a force of high quality, well trained people; acquire and maintain the right mix of weapons, weapon systems and equipment; and maintain effective infrastructure and power projection platforms to remain ready. Our MACOM installations throughout the world are perhaps the key platforms supporting this very issue. Army facilities worldwide provide the places where all American soldiers live, work and train to sustain the global requirements placed upon us.

Today, we are a mission ready military that is living, working and training on military installations with serious infrastructure problems, needing remedial and in some cases major construction for revitalization. However, quality facilities and robust power projection platforms are essential to fully meet our combatant force requirements and

soldier expectations. The mission placed upon our President, the government and the requirements generated by the NMS is to encompass these serious issues and harness the requirements necessary to best sustain and project our global military mission.

Taking a closer look at the status of the military installations of U.S. Army, the FY 2000 ISR results show conclusively that two thirds of the Army's facilities are rated as either C-3 or C-4 in some form of serious infrastructure. This is indicating that these vital facilities mission performance capabilities are impacted, and in part, are putting Army readiness at risk. Although the majority of these facilities are rated C-3, current funding levels indicate that this trend will increase and the number of installations reporting C-4 will increase rapidly. Research indicates that at this rate, by fiscal year 2017, over fifty percent of Army facilities are projected to be rated C-4. These poor installations and facilities conditions are the result of many years of under funding real property maintenance needs.

Research further indicates that about forty percent of Army soldiers are still living in substandard conditions even with the ongoing barracks modernization program on the Aactive Army MILCON side. This includes both permanent party soldiers and trainees. The Army in some cases still must house soldiers in barracks with gang latrines and two or more soldiers per room. As work continues through the barracks modernization program, soldiers must make do with existing facilities, many of which are 1950s vintages and in poor or substandard condition. These poor facility conditions currently do not meet soldier expectations of a world class, high tech, quality Army.

The good news is that the Army is committed to upgrading its barracks. Between MILCON, O&M, and about $750 million per year is needed. The Army with the

assistance of congress has funded about 92,000 upgraded barracks spaces with another 69,000 spaces still scheduled to go. The Army long range plan and program provides sufficient funding to complete the job by the 2008 deadline. Army family housing is also in poor condition. Much of the housing is old and built to standards that met life styles 30 to 50 years ago. On base housing is still preferred by many soldiers with waiting times averaging 10 to 15 months.

The RC are in no better condition. Their FY 2000 ISR mission, mobility and housing area facility ratings are C-3 or C-4 across the board. USAR centers and ARNG armories are equally important in providing a professional work environment for our RC soldiers to execute their vital training and home station missions. All to frequently, what the public sees as representing our armed forces is the citizen soldiers of our nation and their local work environments. The RC facilities representing the USAR and the ARNG throughout hometown America should be the equivalent to any of the facilities representing the AC MACOM installations Army wide. Most often the perception of our military is what our local population sees in these cities across America. The RCs are large organizations important to the Army's ability to fulfill its title X (pronounced "Title Ten") responsibilities in defense of our nation. Title X responsibilities within the U.S. Army are, in most cases, pertinent to federal nature of the RCs. Most ARNG soldiers, unless mobilized under time of crisis, perform their duties under title 32, which is enforced by the governor and specific for jurisdictional control. Prior to the cold war conclusion and the Army draw down of the mid-1990s, the Active Army maintain a significant amount of the Title X capabilities on the active force as they were utilized in current operation in Germany, Panama, and, to a lesser extent in Korea, providing day to

day real world requirements. The U.S. Army as it exists today is exceedingly dependent on the RCs (USAR) to provide the majority of the Combat Support (CS) and Combat Service Support (CSS) go to war necessities not currently available within the active force structure. Any major deployment today (FY 2003) of four hundred thousand soldiers or more to any one theater of war would require a reserve commitment of as much as two hundred thousand USAR soldiers for mobilization support.

To make the matter of the RCs worse, both the USAR and ARNG have a large backlogs of maintenance requirements, virtually ignored by the federal government. The facilities within the USAR fair only slightly better with approximately sixty-seven percent of their facilities being C-3 and a real property maintenance backlog of $1.4 billion. Research indicates that State Governments are, an essence, jealous of federal support to the USAR that is not readily available to ARNG.

One successful byproduct of the NMS for focused improvement of military installations is the enactment of the Army Strategic Mobility Plan. As part of the requirements of the IBCT "Stryker Brigade" implementation increased, so too did the need of the supporting facilities. In the case of the IBCT headed to the island of Hawaii (not inclusive of the 25th Infantry Division unit at Fort Lewis already approved and fielded) perhaps the biggest issue was the $693 million of MILCON funds that were lost due to the fielding decision for four and not five separate brigades. At a cost to the government of approximately $1 billion per brigade, this cost is effectively doubled by situational requirements to the supporting installation, which in the case of the Stryker, would be supported without a doubt. However, many such improvements to Fort Lewis that have already been reaped include improved railheads, road networks and airfield

facilities providing greater deployment capabilities. The Stryker specific requirements program at Fort Lewis will be completed by the end of the calendar year 2003.

This is a start to the Army Strategic Mobility Plan, but not nearly enough to achieve the Army's goal of providing comprehensive, adaptable power projection and support platforms with quality facilities, infrastructure, and services that are integral to the readiness and well being of our soldiers, their families and the civilian workforce.

To accomplish this goal, all components developed a comprehensive facility strategy. The strategy leverages the cost reduction measures for facility improvement and fully funds the annual real property maintenance requirement needed to prevent facilities from deteriorating further. This establishes a steady, predictable and focused investment program to bring our most critical facilities to a condition that fully supports mission accomplishment and instills a sense of pride in our service members. This strategy is programmatic and covers all Army requirements; Active Component, US Army Reserve and Army National Guard. The implementation of the ASMP will require an integrated steady annual funding stream of Real Property Maintenance and MILCON funding for modernization of facilities. The funding mix for modernization may change from year to year, but with a steady stream of funding we ultimately can improve our overall facility condition posture to C-2, mission capable, over the next thirty years.

When soldiers and their families believe they live in a quality community and their community neighborhood is a good place in which to raise children, soldier retention rates will increase within all components of the total Army. The facilities strategy addressed in the NMS responds to these findings, and it makes a concerted effort to improve facility conditions for the Army of the future.

Planning, Programming, Budgeting, and Execution System

The Army “Planning, Programming, Budgeting, and Execution System” (PPBES) is the management process employed by the Army to ensure effective use of resources to establish and maintain the Army's capabilities to accomplish its roles and missions. Guided by policy and direction from the President and his NMS, and the Secretary of Defense, the Army PPBES responds to both the DOD Planning, Programming, and Budget System and the Joint Strategic Planning System. The PPBES is the Army's primary management system that ties strategy, program, and budget together. With guidance, the PPBES builds a comprehensive plan in which budget flows from programs, programs from requirements, requirements from missions, and missions from national security objectives.

The PPBES identifies and accounts for all resources programmed by the Army. It allocates resources by fiscal year totals for manpower and dollars. It covers total obligation and manpower totals four years beyond the end of the biennial budget for a net total of seven years. Documents produced within the PPBES also support the DOD decision-making. The review and discussions that are part of its development help to shape the outcome. The Army participates in preparing the DPG and documents produced by the Joint Strategic Planning System. This participation influences policy, strategy, and force objectives considered by the Secretary of Defense and the Joint Chiefs of Staff.

On behalf of the CINC of a unified command, MACOM commanders serving as Army component commanders integrate their operational requirements into their Program Objective Memorandums (POM) and forward these requirements to

Headquarters, Department of the Army. Installations commanders report as separate entities and are rolled up into the number of their primary supporting agency; i.e. Training and Doctrine Command (TRADOC), or Forces Command (FORSCOM). In the world of the RCs things are executed and controlled slightly differently. In the USAR, each separate USAR is consolidated by one of ten RSCs and reported to the Headquarters, USAR for installation management. This consolidated reported is generated as if all RSC's are one MACOM which is understandable, but no alternative currently exists for support to each of the separate RSC Commanders desires. The ARNG is similar to the USAR, as each state rolls up its numbers and reports to the NGB, which consolidates the totals and once again maintains a consolidated report as if, they too, were a separate MACOM. This gives the State Adjutant General (TAG) greater visibility due to a smaller facility density then the RSC commander within the USAR, but still provides less control than an Active Army MACOM commander.

Major Army Commands (MACOM) commanders make their views known through their periodic commanders conferences held by the Chief of Staff of the Army (CSA) on the proposed plan, program, and budget. Each of the MACOM commanders develops and submits force structure, procurement and construction requirements, command programs, and budget estimates annually. Representation at the CSA meeting is by the Chief, Army Reserve and the Director, Army National Guard for the Reserve Components.

As stated earlier, the PPBES serves as the Army's primary resource management system for all DOD financially supported actions, which is now currently undergoing its biennial cycle review. The function of the PPBES as it constitutes to the U.S. Army

serves as a major decision making tool and the official process which works between DOD and the elected government. It ties planning, programming, and budgeting together within the Army Corps of Engineers, in the case of MILCON, as well as all aspects of the MILCON process for the reserve components. The patterned flow, from end purpose to resource cost, defines requirements in a progressively greater detail that is ultimately lobbied before Congress for official approval and final funding. The system integrates centrally managed programs the 1390 and the 1391 solicitation, research, development, acquisition and the stationing requirements. This system must also take into account the future requirements and constraints related to the Operation and Maintenance budgets of the MACOM and needs for manpower, housing, and construction.

In the USAR, the budgeting process is even more challenging and complex in that the approval process is regionally tied to force stationing and the force stationing pillar is directly related to the availability of units and soldiers to adequately fill the local USAR units. In some respects this is a catch-22 for the USAR, the facilities are not available for stationing the force and the is no way to entice soldiers to become a part of a unit without adequate facilities. With respect to the active force, this requirement is streamlined significantly and is essentially a noncriterion for the PPBES solicitation. The Active Army could easily position the 82d Airborne Division at a remote and isolated location such as northern Montana and the soldiers would still flow in adequate quantities to maintain acceptable operational and personnel strengths.

The entire PPBES supports the budget preparation from installation to installation at all departmental of the Army levels. It reviews execution of the approved program

budget by both headquarters and field organizations. During execution, it provides feedback to the Planning, Programming, and Budgeting Process (USPA 2002).

Major Army Commands and Installations

The Army's fiscal year budget contains funding to sustain and improve quality of life for soldiers and families approved by request of the commander. Key features of this budget include preserving near term readiness, supporting power projection, maintaining quality of life, and providing for key modernization capabilities. In addition to fully funding strategic mobility requirements, MILCON and Army family housing funding remains constant.

The United States Army Corps of Engineers (USACE) is responsible for executing the Army's and the DOD's MILCON and real estate acquisition and the Army's civil works programs. These programs in conjunction with the USACE provide the MACOM and installation commander a dual perspective. The civil works program places the USACE in the role of developing national infrastructure and the associated planning, designing and executing of complex projects of regional and national significance. The MILCON and Real Estate Acquisition Program provides the USACE with military expertise as a result of its worldwide responsibilities. The combined capabilities of these two major programs and the more specialized expertise in its laboratories provides the MACOM commander with an unprecedented level of support and expertise for development of his real property master plan. As a result, the MILCON program is constantly involved with projects in support of dedicated priorities.

Program Objective Memorandum

The Pentagon’s budget planners are sending mixed messages to the defense industry about what to expect in the next fiscal year. On the one hand, they are expressing enthusiasm about the procurement accounts, predicting they will continue to grow in order to address the military services' modernization program and transformation to the interim force. But they also are issuing cautionary signals about what they see as potential roadblocks to new weapon purchases in the near term. Modernization dollars today face tough competition from important areas, such as facility maintenance and personnel that have emerged as top priorities at the Pentagon and on Capitol Hill. Research indicates that this clearly the view from several budget officers, representing each military service.

Revitalization is a term given to old known quantities similarly to remanufacturing is which is inevitably likelier way for the MILCON program of the next few years. The backlog for repair work at military facilities is continuing and is reaching new heights. In this year's budget, the service funded only thirty-seven percent of its MILCON requirements for the active force. At the current rate, it would take 194 years to meet the thirty-year funding requirements for the facility O&M as stipulated in the FY 2004 to FY 2009 FYDP.

Future Year Defense Budget

This year, the first in almost a decade, the military and associated defense agencies have received a boost in support by the President in part in response to the global war on terrorism. The FY 2003 defense budget of $379.4 billion, an increase of $48 billion over the fiscal 2002 budget is the largest single increase since the

mobilization for Korea in 1950. The requested funds for the war on terrorism, increases DOD funds spent on homeland security and begins financing transformation for the U.S. military to face the challenges of the 21st century as previously reported above.

Active duty end strength of all the U.S services is set at 1,389,700 soldiers, sailors and airmen. The RC end strength is set at 864,600 for FY 2002. Included within this budget for the force is $4.2 billion to fund the MILCON program to include housing, and O&M support facilities. While some quality of life construction will continue, most of the money will go to sustain existing facilities and moderate construction to new mobilization requirements, i.e., the Stryker Brigade at Fort Lewis.

The reason the funding level of construction is not rising with the DOD level is most likely due to the next round of base closures set for fiscal year 2005. This is clearly news not wanted by most, but perhaps inevitable, and likely unforecasted by the USAR. This will sends mixed signals to the reserve forces as well as they often get the left over from the BRAC'd locations. In the meantime, DOD must maintain its bases and cannot "preselect" the ones it thinks are likely to be closed. Rather than risk building new facilities on bases that may be closed, DOD officials may chose to delay as many projects as possible until after the future closure decisions in fiscal year 2005.

CHAPTER 4

ANALYSIS

In continuation with chapter 3, this analysis will quantifiably address the funding allocation procured in support of the Future Year Defense Budget (FYDP), fiscal year 2004 through fiscal year 2009 for the United States Army, United States Army Reserve and to a lesser degree, the Army National Guard. As defined in chapter three and outlined in appendix B, the critical thinking process evaluated in the MILCON funding process goes through five iterations from conception through the FYDP. As gathered from the research collection, this analysis will look at the numbers gathered, and ascertained hypotheses as why each were awarded for the indicated projects.

The QDR, and the NMS are the precursors to the ultimate funding of the MILCON requisite needs. MILCON appropriation provides necessary funding for the planning, design, construction, alteration, and improvement of military facilities worldwide, both for the U.S. Army and U.S. Army Reserve. It also finances the construction, alteration, improvement, operation, and maintenance of military family housing, including payments against past housing mortgage indebtedness. Certain types of community impact assistance may be provided, as well as assistance to members of the military who face loss on the sale of private residences due to installation realignments and closures. To some degree, state supported monies are provided for construction requirements for the Army National Guard. However, since this finance is creative in nature, projected state dollars cannot be determined for FYDP cycles within the Army National Guard.

In fiscal year 2003, the total appropriations for all United States military forces, projects and future developments were approved at $10,500,000,000 for the fiscal year 2004 MILCON program, family housing, base closure and all other required mandated necessities. (OCAR, 2002) The ultimate breakdown for use in this thesis, in comparison generation is taken from the fiscal year 2003 military appropriations bill in fiscal year 2002 dollars are as follows:

Table 2
MILCON Funding Requirements

Component	FY 2003 Funding	Percent (%) of total
Fund Sustainment	100%	100 %
MILCON, Active U.S. Army	$1,668,957,000.00	77.3 %
MILCON, Army Reserve	$111,404,000.00	5.16 %
MILCON, Army National Guard	$378,549,000.00	17.5 %
Total Funded FY 2003 MILCON	$2,158,910,000.00	100 %

Source: Army Facility Strategy, Schmidt, W. A., Military Construction Requirements and Funding for focused AFS, OCAR ACSIM, Oct 02, 1-5.

Given that the total funded appropriations were published at approximately $10,500,000,000 for fiscal year 2003, the total funded fiscal year MILCON budget given for the United States Army of $2,158,910,000 (for all components). This dollar value more accurately represents approximately 20.5 percent of the total commitment on the part of the government of the United States, and the Department of Defense for use in the MILCON program (for all components) of the “Total U.S Army.” The additional

requisite funding ($8,341,000,000, 79.5 percent) was divided among the MILCON requirements of our sister services and potentially other federal or DOD requirements.

For the purpose of this thesis, the numbers listed in Table 2 will represent the approved values. An excerpt taken from appendix B, page 2, (table 3) and shows slightly smaller numbers; however, this value takes into account monies that have been allocated for design (as much or more then 10 percent for design) additional land purchases and potential minor MILCON if available for year-end funding. These numbers clearly lead the reader to believe that the indicated funds approved (table 2) and those provided in the FYDP, fiscal year 2004 through fiscal year 2008 (table 3) have a funding surplus. Research lacks in this area, however, in the world of USAR budgets, this funding as indicated in table 2 and table 3 is in excess of $40,000,000.00.

Table 3
FY 2004 Funded Values

FY 2004	Requirements	Funding
Active Army	$1,668,957,000.00	$1,617,778000
Army Reserve	$111,404,000.00	$70,478000
Army National Guard	$378,549,000.00	$173,298000
FY 2004 Total	$5,762,035,000	$1,861,554,000

Source: Army Facility Strategy, Schmidt, W. A., Military Construction Requirements and Funding for focused AFS, OCAR ACSIM, Oct 02, 1-5.

The sum total end-strength of the United States Army, the United States Army Reserve and Army National Guard is currently listed at 1,089,557 soldiers. (OCAR, 2002) This number is constantly in a stat of flux and depending on the source, can very

by as much as 5 percent. The numbers of soldiers generated for the Army National Guard and U.S. Army Reserve end-strength do not take into account any soldiers whom are in retired status or a part of the USAR Ready Reserve. USAR Individual Ready Reserve (IRR) and retired soldiers would not require office space or vehicle maintenance authorizations.

Table 4
Total Army End Strength by Component

Component	End-Strength	Percent (%)
Active Army (AC)	480,801	44.20 %
U.S. Army Reserve (TPU)	188,756	$70,478000
Army National Guard	420,000	38.50 %
Total Army end-strength	1,089,557	100.00 %
FY 2004 Total	$5,762,035,000	$1,861,554,000

Source: www.army.mil/soldiers/april02/p28, Kalinoski, Mark, Funding the Force, Soldiers Magazine, April 02, 28.

MILCON, Army Reserve

Looking at the United States Army Reserve, let us first answer a few very simple questions to identify the accurate requirements and percentages requested based upon the needs of the organization and allocation of strength. First, what is the legitimate end-strength of the United States Army Reserve and what percentage of the end-strength of the "total Army" does this number represent? The end-strength of the "total Army" from table 4 is 1,089,557 of which the United States Army Reserve apportions 17.3 percent of

this end-strength, or, 188,756 soldiers. This number is elusive from what is generally accepted or what was presented in Chapter 1. However, after having executing significant investigative research in support of this thesis, this number is quite legitimate for fiscal year 2003.

Looking at the construction requests for the "total Army" in a parallel direction, the next most illustrative question is: What are the construction requests made by the United States Army Reserve in support of their needs, and how do to these requests apportion with those of the "total Army?" The MILCON staff at OCAR has made this information easily obtainable and quantifiable. Appendix B includes a complete list for all United States Army Reserve MCAR projects for the FYDP FY 2004 through FY 2009. This information is similarly available for the active Army in appendix A.

Listed in tabular format in table 5 is striking evidence that provides on average an allocation of funds of 5.47 percent of those funds requested for appropriation for MILCON to the United States Army Reserve. This is even more clouded by the fact that in fiscal year 2004 the percentage is actually 3.78 percent and only the first two years of the FYDP are in support of approved projects. Further investigations of the projects listed (appendix B, 1-3) by the AC include much more infrastructure requirements for quality of life issues of the soldiers (physical fitness centers for example) then those approved for construction by the USAR. Due to the nature of the reserve components, USAR facilitates replicate much of the quality of life issues in one inclusive building or project.

Table 5
USAR Future Year Defense Budget Funding per Annum

Year	USAR	Total	Allocation
FY 2004	70,478,000	1,861,554,000	3.78 %
FY 2005	101,015,000	2,311,365,000	4.37 %
FY 2006	97,539,000	2,383,336,000	4.09 %
FY 2007	156,460,000	2,834,806,000	5.51 %
FY 2008	159,688,000	2,887,619,000	5.53 %
FY 2009	273,574,000	2,925,942,000	9.34 %

Source: Army Facility Strategy, Schmidt, W. A., Military Construction Requirements and Funding for focused AFS, OCAR ACSIM, Oct 02, 1-5.

MILCON, Active Army

Let us now take a closer look at the funding allocation for construction within the AC and answer the same questions: First, what is the legitimate end-strength of the AC of the United States Army and what percentage of this end-strength of the "total Army" does this number represent? The end-strength of the "total Army" from table 4 is 1,089,557 of which the active component apportions approximately 44.2 percent of this end-strength, or, 480,801 soldiers. This number too, is slightly larger in percentage then what is generally accepted or what is presented in chapter 1, however, after investigative research in support of this thesis, this number is also quite legitimate for fiscal year 2003.

Looking at the construction requests for the total Army in a parallel direction as defined from the previous demonstration from the USAR, the next most illustrative question is: What are the construction requests made by the AC of the total Army in

support of their needs, and how do to these requests apportion with those of the total Army? This information is obtained from the same sources as that for the USAR and can be found in appendix B, for a complete list for all United States Army MILCON projects for the FYDP fiscal year 2004 through fiscal year 2009.

Table 6
Active Army Future Year Defense Budget per Annum

Year	Active Army	Total	Allocation
FY 2004	1,617,778,000	1,861,554,000	86.91
FY 2005	1,937,981,000	2,311,365,000	4.37 %
FY 2006	1,954,102,000	2,383,336,000	4.09 %
FY 2007	2,256,511,000	2,834,806,000	79.60%
FY 2008	2,301,385,000	2,887,619,000	76.53%
FY 2009	2,093,058,000	2,925,942,000	71.53%

Source: Army Facility Strategy, Schmidt, W. A., Military Construction Requirements and Funding for focused AFS, OCAR ACSIM, Oct 02, 1-5.

Listed in tabular format in table 6 is striking evidence that provides on average an allocation of funds of 80.59 percent of those funds requested for appropriation for MILCON to the USAR. This too, in a similar format from the USAR numbers, is clouded by the fact that for fiscal year 2004 the percentage is nearly 87 percent and goes down each year in sharp contrast to the numbers generated from the USAR. Additionally, only the first two years of the FYDP are funded facilities. Further investigation of the projects listed in appendix B, will reveal that in most cases these projects are significantly higher

in total average value then those of the USAR. A careful evaluation of the AC MILCON projects for FY 2004 yield an average project value of approximately $9.56 million per MILCON compared with the $6.53 million per MCAR for the fiscal year 2003 USAR projects.

Military Construction, Army National Guard

Lastly, looking at the ARNG and investigate the same criteria we have been looking at with the USAR and the Active Army as the three pillars of the "total Army." As research investigated above, let us answer the same questions to identify the accurate requirements and percentages requested based upon the needs of the organization and allocation of strength. First, what is the legitimate end-strength of the United States Army National Guard and what percentage of the end-strength of the "total Army" does this number represent? The end-strength of the "total Army" from table 4 is 1,089,557 of which the United States ARNG apportions 38.5 percent of this end-strength, or, 420,000 soldiers. This number has been challenging to bring to conclusion do to the remote and composite nature of the Army National Guard. Unlike the active Army, and the USAR, the ARNG is composed of composition of not less the fifty-three separate and independent organizations that are divided yet shared in within their two missions. The 420,000-soldier number sourced in this chapter is generated from the composition of the Title ten soldiers serving at the NGB in Washington D.C., the fifty independent (Title 32) state ARNG's and the NG's of Puerto Rico and Guam. As stated previously, significant investigative research effort in support of this thesis has been endeavored, and this number seems to be legitimate for fiscal year 2003.

Now, looking into the construction requests for the total Army in the same parallel direction, the next most illustrative question is: What are the construction requests made by the United States ARNG in support of their needs, and how do to these requests apportion with those of the total Army?

Due to the nature of the AARNG and the Title 32 requirements, generation of a complete FYDP as illustrated in appendix B, for the USAR and the Active Army would require one hundred pages alone. However, suffice it to say that the composite requirements as collected by the NGB and presented before the house appropriations and subsequently approved are published in tabular format in appendix B, page seven for your review.

Table 7
Army National Guard Future Year Defense Budget funding per Annum

Year	Army N G	Total	Allocation
FY 2004	173,298,000	1,861,554,000	9.31 %
FY 2005	272,369,000	2,311,365,000	11.78 %
FY 2006	331,695,000	2,383,336,000	13.91 %
FY 2007	421,835,000	2,834,806,000	14.88 %
FY 2008	426,546,000	2,887,619,000	14.77 %
FY 2009	559,310,000	2,925,942,000	19.12 %

Source: Army Facility Strategy, Schmidt, W. A., Military Construction Requirements and Funding for focused AFS, OCAR ACSIM, Oct 02, 1-5.

Listed in tabular format in table 7 is the research developed that provides on average an allocation of funds of approximately 13.96 percent of those funds requested for appropriation for MILCON to the United States ARNG in support of the states' Title thirty-two federal and state missions over the life of the FYDP. As stated previously, this research evidence on percentage of funding allocation is somewhat different that what had been expected from the material gathered in support of chapters 1-3. Interesting to point out is that percentages of funding requests increase each year in FY 2004--FY 2009 in the same manor as that of the United States Army Reserve.

Of recent interest is the ability of the joint construction mission initiated by the USAR and the ARNG to build collective facilities housed on one location that meets both organizations needs concurrently. Although this is known to have occurred not less then twice in recent past, much savings can be generated by the overlapping design and land purchase costs. However, with this having been said it needs to be pointed out that until such a time that the congressional add is approved, each component maintains separate projects on file essentially competing for the same funding resources. Whichever of the lobbying forces goes before Congress with the better project folder is likely to win the award for the facility. Presenting a unified front in theory is very simple. But, the ability of a several large organizations to work together to reach a consensus is often too bureaucratic for the current MILCON system. Each of the state Title 32 and federal Title 10 requirements are maintained separately and lobbied for approval each on its own merit. As such, consolidated projects or congressional adds are not evaluated in this thesis.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This chapter is intended to draw conclusions and issue recommendations on the basis of the analysis of the subject material presented in chapter 4, and the material previously written in chapters 1 through 3. It is intended to address the primary research topic as address from the conception of this research effort: In that the United States Army's reserve allocation of funds for MILCON is unproportional to the size and mission requirements based upon the authorization given to the active Army. From this research and its conclusions, it will be possible to propose specific recommendations for the distribution of funds and draw conclusions for the continued research on this subject and derivative subjects closely related to MILCON and MCAR projects.

With the operational-tempo of the USAR functioning at perhaps its highest levels since World War II, it is easy to see the need for the United States to maintain a quality infrastructure for the 55.8 percent of its force that serves as the reserve to the U.S. Army, see table 8. The United States Army had mobilized its RC six times between the end of World War I through 1990 and eleven times since the end of Desert Storm in 1991. The RCs of the U.S. Army have equally experience the turmoil of the 1993-1997 total Army draw down, which reduced the active force from a sixteen division Army to an Army of eight divisions. This period also thrust the USAR through a period of instability with a 36 percent reduction in force and an ever-expanding mission from the transition of active component units into the USAR. Through all this, the USAR has met the challenge of the requirements placed upon its organizations, soldiers and infrastructure and then some.

This topic is endearing to most citizen soldiers in the U.S. and although not expounded upon greatly in this thesis, is likely understood and accepted as truth to each and every one of them in uniform today.

Table 8
Funding Distribution Percentage by Component

Component	End-Strength	Percent of End-Strength	Percent of MILCON Allocation
U.S. Army (AC)	480,801	44.20 %	80.59 %
U.S. Army Reserve	188,756	17.30 %	5.47 %
Army National Guard	420,000	38.50 %	13.96 %

Source: MMAS Thesis, Arvanites, G. C., Allocation and Apportionment of Funding Resources for Military Construction within the USAR, 6 Jun 03, 44-54.

It is clearly obvious that the proportion of resources to the RC should, as a minimum, equal that of the Active Army's 44.2 percent force. The need to safeguard and maintain the viability of the USAR is as clear as ever. However, with irrefutable evidence it can be seen that the USAR and the Army N.G. combined posses 55.8 percent of the total Army and actually receive 19.41 percent of the MILCON dollars allocated through government appropriations based on need, see table 8. This evidence is even more clouded when diluted with the ARNG whom may also receive sate-supported funds that either match or come close to those allocated to the NGB for state projects.

When quantifying the needs of the AC Army, it has been shown that the infrastructure associated with the Army facility includes several kinds of moral, welfare and recreation (MWR) types of facilities and housing requirements that the USAR is incapable of matching. Although the needs exists during the drill period, the USAR is not

mandated to provide housing and billets in kind for their soldiers during drill periods except under selective mobilization or under active duty orders.

Ultimately, the question must be asked: What is the bottom line for the USAR and its MCAR requirements given all of the various components, funding sources, and challenges as described within this thesis versus the AC slice funded through Congress? As determined through the funding allocation process defined in attached appendices to this thesis, the USAR receives in fiscal year 2003 dollars for the FYDP in support of FY 2004 through FY 2009 on average $143,125,667.00, or approximately 5.47 percent of all monies allocated by congress for the 188,000 (17.13 percent of the total Army) citizen solders of the USAR. In comparison, the Active Army receives on average $2,026,802,500 or 80.59 percent of all monies allocated by Congress for the 480,801 soldiers (44.2 percent of the total Army) active soldiers serving every day in the U.S. Army. For whatever reason, without conjecture, it can be seen that the USAR unequally receives it proportional fair share of the DOD appropriation of the MILCON funding authorization dollars.

By looking specifically at the total dollar allocations per branch, Active Army versus the USAR, a different method of analysis can also be looked at to reach the same conclusion. In contrast, the Active Army solders allocation to MILCON funding is approximately $4,215.42 per year per soldier. The same number reached for the USAR citizen soldier would be approximately $761.31 per solder per year or approximately 18 percent funding support per soldier in the Active Army versus the USAR. This comparison generates a funding disproportion of approximately 554 percent in favor of the Active U.S. Army versus the USAR.

Perhaps it can be argued that the needs of the Active Army outweigh the needs of the USAR, or perhaps the operational tempo of the Active Army is much more fluid then that of the USAR. Infrastructure aside, given the current world situation, there is no difference in missions between the citizen soldiers from those placed on their Active Army counterparts. With the new developments added from the homeland defense initiatives pinging throughout corporate America, perhaps the swing in mission responsibilities is even greater in support of the USAR, given that it appears that the burden of responsibilities for Northern Command will reside within the RC.

Recommendations

Funding allocation and apportionment is clearly a topic worthy of continued research; however, the added reapportionment of these resources specifically for MILCON must be reviewed in much greater detail for further clarification. The first and foremost recommendation is that the USAR should receive a greater percentage of the Congressionally approved MILCON budget and not just the obvious eyewash provided as expanding dollars for the out year POM. As a means of proof of increasing support to the apportionment of funding to the USAR, incremental year MCAR budgets in the future year defense budget should be increased exponentially at least through the next POM cycle until such a time that the percentage of respective services is proportional or clearly much more equitably distributed.

One practice that should be avoided during a period of reapportioning of funding resources is the process of land exchanges or property swaps under BRAC between Active military installations and the RC. It can be argued that this process is great trade of resources between the active military and the reserve components. Under BRAC,

active military installations or government facilities that have become excess are offered as compensation to federal, state and DOD organizations that might have a legitimate use for this property. In most cases, the RC of all branches of the military are eager to occupy such a facility due to a dire need for training, office, administration, or maintenance space and would gladly welcome such an opportunity. However, due to the unique nature of the RC, often these facilities that are offered to the USAR do not closely match the internal needs of a reserve organization or have a very high construction cost for modification of the existing facility to meet the needs of the programmed unit potentially identified for movement into this facility. If the USAR is offered and accepts a property formerly owned by the DOD, Federal Government or some MACOM installation given up under BRAC, the building in question is most often accepted as is. This new facility can generate a significant increase in facility maintenance cost to the RSC who would ultimately become the proprietor of responsibility. Additionally, if the facility in question were in a degenerated state, it may likely reflect poorly on the RSC's Unit Status Report that is reported to the Department of the Army.

Of interest, it could be recommended for additional research that future topics may include the decision of how the numbers supporting the Reserve Components of the total Army appear to increase every year in percentage of MILCON dollars, yet always fall when transitioning from the FYDP to the POM. On the same topic, it may be even more interesting to entertain the concept that the Reserve Components of all branches of the military apportion their construction dollars as if a separate service. This would be a very difficult concept to gain approval, as even in the USAR most of the construction

oversight is controlled by the Active Army, COE and would potentially be a conflict of interest to the USAR.

One last concept worth researching would include the local municipality apportioning some percentage of the funding support for the Reserve Components that would be repaid by the federal government in some sort of reimbursement in kind methodology. In many cases, the RCs of the U.S. are seriously embedded economically in the community they support. It clearly would be in the best interest of a major metropolis to support the military Reserve which has essentially the same vital interest in its city as the city may have in the opportunity to have an additional supporting institution in one of its communities.

APPENDIX A

ACTIVE ARMY FY 2004--FY 2009 FYDP

Funded Fiscal Year	Installation	Description	MCA DD1391
2004	Fort Myer	Revitalize Maintenance Shop	$7,000
2004	Hohenfels	Physical Fitness Ctr.	$10,500
2004	Hunter Army Airfield	Physical Fitness Cn	$11,200
2005	Fort Bliss	Air Missile Defense Instruction Fac	
2005	Camp Stanley	Vehicle Maintenance Fac	
2005	Fort Stewart	Chapel of the Year/Large Complex	$7,200
2005	Fort Bragg	Fitness Center/USASOC	
2005	Fort Richardson	Vehicle Maint Shop	$2,250
2006	Fort Sill (FORSCOM)	Vehicle Maintenance Shop	$14,400
2006	Fort Leonard Wood	BCT Complex II, Ph. 1	$82,000
2006	Fort Benning	Chapel (Fire Damaged)	$6,100
2006	Fort Benning	Physical Fitness Center, Main Post	$16,500
2006	Fort Sill	Revitalize BCT Complex I	$32,000
2006	Redstone	General Instruction Facility	$2,900
2006	Camp Stanley	Vehicle Maintenance Facility	$14,200
2006	Camp Ederle	Physical Fitness Center	$4,200
2006	Fort Sam Houston	General Instruction Building	$8,500
2007	Fort Lee	ALMC General Instruction Facility	$31,000

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

2007	Fort Leonard Wood	BCT Complex II, Ph 2	$43,000
2007	Fort Bliss	Tactical Equipment Shop	$19,000
2007	Fort Leavenworth	Chapel (Fire Damaged)	$8,600
2007	Camp Humphreys	Physical Fitness Center	$25,000
2007	Fort Benning	Reception Barracks/Station	$50,000
2007	Camp Stanley	Vehicle Maintenance Facility	$28,000
2007	Fort Jackson	BCT Complex II, Ph1	$74,000
2007	Fort Sill (TRADOC)	Consolidated Maintenance Complex	$37,000
2008	Fort Leonard Wood	Chapel, Barracks Complex	$6,600
2008	Fort Jackson	BCT Complex II, Ph. 2	$36,000
2008	Fort AP Hill	Vehicle Maintenance Shop, Organizational	$6,000
2008	Anniston AD	General Instr Bldg	$1,000
2008	Aberdeen Pvg Gnd	Gen. Inst. Facility Construction	$19,000
2008	Fort Rucker	Physical Fitness Center	$3,400
2008	Fort Knox	OSUT Complex I, Ph 1	$23,000
2008	Kleber	Physical Fitness Center	$16,000
2008	Fort Sam Houston	Revitalize AIT Complex I	
2008	Schofield Barracks	Air Assault School	$13,400
2008	WSMR (Ft Huachuca)	Vehicle Maint.Facility - EPG	$10,600
2008	White Sands Msl Rng	Physical Fitness Center	$8,100

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

2008	Fort Benning	Consolidated Maintenance Facility	$24,000
2008	Fort Sam Houston	Physical Fitness Center (Camp Bullis)	$3,400
2008	Fort Hood	DS Tac Equip Shop (1 CD) (WFH)	$24,000
2008	Schofield Barracks	Avn Bde Motor Pool Expansion PhI	$33,000
2008	Fort Sam Houston	Vehicle Maintenance Shop (Camp Bullis)	$4,850
2008	Fort Bragg	VMS/525 MI BDE	$9,300
2009	Fort McNair	Chapel Conversion	$2,500
2009	Fort Leonard Wood	BCT Complex III, Ph. 1	$44,000
2009	Schofield Barracks	Physical Fitness Center	$29,000
2009	Fort Knox	University of Mounted Warfare (Armor Hall)	$52,000
2009	Fort Knox	OSUT Complex I, Incr 2	
2009	Fort Eustis	Transportation School Modernization	$7,000
2009	Fort Gordon	Instruction Fac--2d, 3rd Shift Elim, Ph 1	$21,000
2009	Fort Meade	Renovate Physical Fitness Center, Bldg 8551	$16,500
2009	Fort Leonard Wood	Consolidated Training Fac - TA 244	$10,000
2009	Fort Campbell	Veh Maint Shop	$45,000
2009	Aberdeen Pvg Gnd	EA Physical Fitness Center	$10,800
2009	Landstuhl	Physical Fitness Facility	$11,800
2009	Fort Sam Houston	Revitalize AIT Complex I	$56,000
2009	Presidio of Monterey	CLASSROOM REN 1	

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

ACTIVE ARMY FY 2004--FY 2009 FYDP

2009	Fort McPherson	Phy Fitness Ctr	$7,800

2009	Fort Meade	Replace AIT Complex	$33,000
2009	Aberdeen Pvg Gnd	Revitalize AIT Complex I	
2009	Camp Casey	Physical Fitness Center	$19,000
2009	Fort Shafter	Consolidated Motor Pool Facility	$15,000
2009	Fort Leonard Wood	A/C and upgrade 700 Area barracks	$18,500
2009	Aberdeen Pvg Gnd	Vehicle Maintenance Shop	$44,000
2009	Fort Jackson	Revitalize AIT Complex I, Incr 1	$49,000
2009	Fort Benning	Revitalize BCT/OSUT Complex I	$38,000
2009	Fort Leonard Wood	Replace BCT Complex IV, Ph. 1	$50,000
2009	Fort Knox	Ground Mobility Training Complex	$7,500
2009	Fort Leonard Wood	Sapper Leader Course--TA 147	
2009	Fort Hood	Fit Fac New	$6,100
2009	Ledward Barracks	Vehicle Maintenance Shop	$12,800
2009	Fort Eustis	AIT Complex, Incr 1	50,000
2009	Mannheim (Coleman Bks)	Physical Fitness Center	$11,400
2009	Cambrai Fritsch Ksm	Organizational Vehicle Maint Shop	$9,900
2009	Fort Drum	Expand Pine Plains Physical Fitness Center	$5,200
2009	Fort Irwin & NTC	Repair Fitness Facility/Add Pool	$8,400
2009	Fort Sill	Revitalize BCT Complex II	$34,000

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

ACTIVE ARMY FY 2004--FY 2009 FYDP

2009	Fort Knox	Replace BCT Complex II, Incr 1	
2009	Camp Castle	Vehicle Maintenance Facility	

2009	Fort Belvoir	Replace South Post Physical Fitness Ctr, bldg 1182	$18,500
2009	Camp Humphreys	Veh Maint Fac (Consolidated)	$20,000
2009	Fort Bragg	VMS/530th SS BN	$14,000
2009	Fort Hood	Vehicle Maintenance Shop COSCOM and 1C	$27,000
2009	Fort Irwin & NTC	VMS	$6,200
2009	Fort Hood	DS Tac Eq Shop (COSCOM)	$23,500
2009	Fort Benning	Consol Tac Equip Shop, 36th Group	$5,300
2009	Fort Riley	Vehicle Maintenance Facility	$12,800
2009	Fort Campbell	Vehicle Maintenance Facility	$15,500

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

APPENDIX B
USAR FY 2004--FY 2009 FYDP

Year	Installation	Project Title	Amount
2003	Vallejo	Org Mnt Shop/Marine Area Mnt Spt Act	$6501
2003	Lincoln	AR Ctr/Org Mnt Shop/Strg	$8732

2003	Oswego	AR Ctr/Org Mnt Shop/Unhtd Strg	$5492
2003	Ft Bragg	Add/Alt AR Ctr	$1624
2003	Grand Prairie	AR Ctr/Org Mnt Shop/DS-GS	$9113
2003	Ft Story	AR Ctr/Org Mnt Shop/Area Mnt Spt	$12385
2003	Ft McCoy	Battalion Dining Facility	$5117
2003	Various Locations	Worldwide Unspecified Minor Construction	$2850
2003	Various Locations	Planning and Design	$6965
2004	Birmingham	Land Acquisition	$0
2004	Ft Meade	AR Ctr/Org Mnt Shop/Whse PH I	$21051
2004	Ft Gillem	Org Mnt Shop/Whse	$7751
2004	Cleveland	AR Ctr/Org Mnt Shop PH I	$21968
2004	Aguadilla	AR Ctr	$0
2004	Nashville	Add/Alt AR Ctr	$9110
2004	Various Locations	Worldwide Unspecified Minor Construction	$2886
2004	Various Locations	Planning and Design	$7712
2005	Birmingham	Land Acquisition	$1800
2005	Cp Parks	Range Cont Admin Bldg	$4800

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19

USAR FY 2004--FY 2009 FYDP

Year	Installation	Project Title	Amount
2005	Cp Parks	Range Cont Admin Bldg	$4800
2005	Ft Hunter-Liggett	Urban Assault Crs	$1500

2005	Ft Hunter-Liggett	Range Upgrades	$0
2005	Ft Gillem	Org Mnt Shop/Whse	0
2005	Hays	AR Ctr/Org Mnt Shop	$7628
2005	Ft Meade	Strg/Org Mnt Shop/Area Mnt Spt Act PH II	$17793
2005	Ft Devens	Range Cont Admin Bldg	$0
2005	Ft Dix	Urban Assault Crs	$0
2005	Morehead City	Pier Facs	$10900
2005	Cleveland	AR Ctr/Org Mnt Shop PH II	$0
2005	Nashville	Add/Alt AR Ctr	$0
2005	Tacoma	Pier Facs PH II	$0
2005	Vancouver	Land Acquisition	$0
2005	Ft McCoy	Battle Simulation Ctr	$4610
2005	Ft McCoy	NCO Academy PH I	$7888
2005	Ft McCoy	Range Upgrades	$0
2205	Ft McCoy	Urban Assault Crs	$0

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

USAR FY 2004--FY 2009 FYDP

Year	Installation	Project Title	Amount
2005	Ft Hunter-Liggett	Shoot-House	$1577
2005	Ft Hunter-Liggett	Fire & Movement Range	$1884
2005	Ft Hunter-Liggett	Infiltrtion Course	$1118

2005	Ft Devens	Urban Assault Course	$1500
2005	Ft McCoy	Shoot-House, AAR Bldg w/A-V Instrumentation & Breach Fac	$2700
2005	Aguadilla	AR Ctr	$19501
2005	Various Locations	Worldwide Unspecified Minor Construction	$2923
2005	Various Locations	Planning and Design	$11225
2006	Birmingham	Reserve Spt Cmd HQs	$15798
2006	Cp Parks	Range Upgrades	$0
2006	Ft Hunter-Liggett	Bayonet Assault Crs Rng	$0
2006	Ft Hunter-Liggett	M203/MK19 Range Upgrade	$700
2006	Gulfport	Strg Complex PH II	$12111
2006	North Canton	Add/Alt AR Ctr/Org Mnt Shop	$11486
2006	Grand Prairie	Strg/Dining Fac PH II	$6025
2006	Tacoma	Pier Facs PH II	$5705
2006	Ogden	Add/Alt AR Ctr	$8096

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

USAR FY 2004--FY 2009 FYDP

Year	Installation	Project Title	Amount
2006	Birmingham	Reserve Spt Cmd HQs	$15798
2006	Cp Parks	Range Upgrades	0
2006	Ft Hunter-Liggett	Bayonet Assault Crs Rng	0
2006	Ft Hunter-Liggett	M203/MK19 Range Upgrade	
2006	Gulfport	Strg Complex PH II	$12111

2007	Corpus Christi	Strg Complex PH I	$15000
2007	Ft Bliss	Eqpmt Conc Site	$12697
2007	Eau Claire	AR Ctr/Org Mnt Shop/Area Mnt Spt Act	$8800
2007	Various Locations	Worldwide Unspecified Minor Construction	$3042
2007	Various Locations	Planning and Design	$11889
2008	Birmingham	RSC Headquarters Phase II	$16000
2008	Garden Grove	Add/Alt AR Center	$11200
2008	Baton Rouge	Add/Alt AR Center/OMS	$6500
2008	Chicopee	Add/Alt AR Center/OMS	$14200
2008	Fort Dix	Officer Education School Classrooms	$7000
2008	Fort Totten	AR Center/OMS Phase I	$18000
2008	Fort Indiantown Gap	AR Center/OMS	$9819
2008	Caquas	AR Center/OMS	$22153
2008	Tyler	AR Center/OMS	$5900

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19

USAR FY 2004--FY 2009 FYDP

Year	Installation	Project Title	Amount
2008	Fort Lewis	AR Center/OMS	$25000
2008	Ft McCoy	Urban Assault Crs	$1979
2008	Wausua	AR Center/OMS	$6693
2008	Various Locations	Worldwide Unspecified Minor Construction	$3106
2008	Various Locations	Planning and Design	$12138

2009	Huntsville	Add/Alt AR Center/OMS	$4100
2009	Los Alamitos	AFRC/OMS/UNH STRG	$20000
2009	March Air Force Base	AR Center/OMS/AMSA	$19500
2009	Denver	Add/Alt AR Center	$8600
2009	Fairfield	Add/Alt AR Center	$5480
2009	Fort Benning	AR Center/OMS	$10000
2009	Hayden Lake	Add/Alt AR Center	$3600
2009	New Century	Alt AR Center	$6500
2009	Fort Campbell	AR Center/OMS	$16890
2009	Saint Joseph	AR Center/OMS/AMSA	$9860
2009	Weldon Springs	AR Center/OMS	$18500
2009	Kalispell	AFRC/OMS	$3800
2009	Camden	AR Center/OMS	$3100
2009	Ft Dix	Timmerman Conference Center	$4500

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19,

USAR FY 2004--FY 2009 FYDP

Year	Installation	Project Title	Amount
2009	Ft Dix	Urban Assault	$1950
2009	Fort Totten	AR Center Phase II	$16000
2009	Uniondale	Add/Alt AR Center	$15943
2009	Beaver Falls	Add/Alt AR Center	$6100
2009	Bellefonte	Add/Alt AR Center	$3600
2009	Bristol	Add/Alt AR Center/OMS	$12700

2009	Bristol	Add/Alt AR Center	$7000
2009	Greenville	Add/Alt AR Center	$9200
2009	Sioux Falls	AR Center/OMS/AMSA	$12940
2009	Marshall	Add/Alt AR Center	$4100
2009	Kandle	Add/Alt AR Center	$5800
2009	Renton	AR Center	$8200
2009	Fort McCoy	NCO Acadmey Phase III	$9200
2009	Menasha	AR Center/OMS	$10846
2009	Various Locations	Worldwide Unspecified Minor Construction	$3171
2009	Various Locations	Planning and Design	$12394
2009	Bristol	Add/Alt AR Center	$7000

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

APPENDIX C

TOTAL ARMY FY2004--2009 POM FUNDING

POM 04-09	MILCON			Current Mission/New Footprint	
Component	Requirements	Funding	Barracks	AFS	CM/NF
Active	4,347,122	2,093,038	0	70,500	70,500
Army Reserve	506,150	273,574	0	0	0
National Guard	1,784,581	559,310	53,096	134,778	187,874
Totals POM FY04-FY09	40,622,488	15,244,622	370,930	887,595	1,248,095
FY04 Total	5,762,035	1,861,554	46,205	46,079	92,284

Active	4,732,342	1,937,981	20,500	17,000	37,500
Army Reserve	401,347	101,015	0	0	0
National Guard	1,338,515	272,369	9,531	32,279	41,810
FY05 Total	6,472,204	2,311,365	30,031	49,279	79,310

Active	4,757,303	1,954,102	40,000	44,900	84,900
Army Reserve	473,279	97,539	0	0	0
National Guard	1,798,096	331,695	13,712	23,920	37,632
FY06 Total	7,028,678	2,383,336	53,712	68,820	122,532

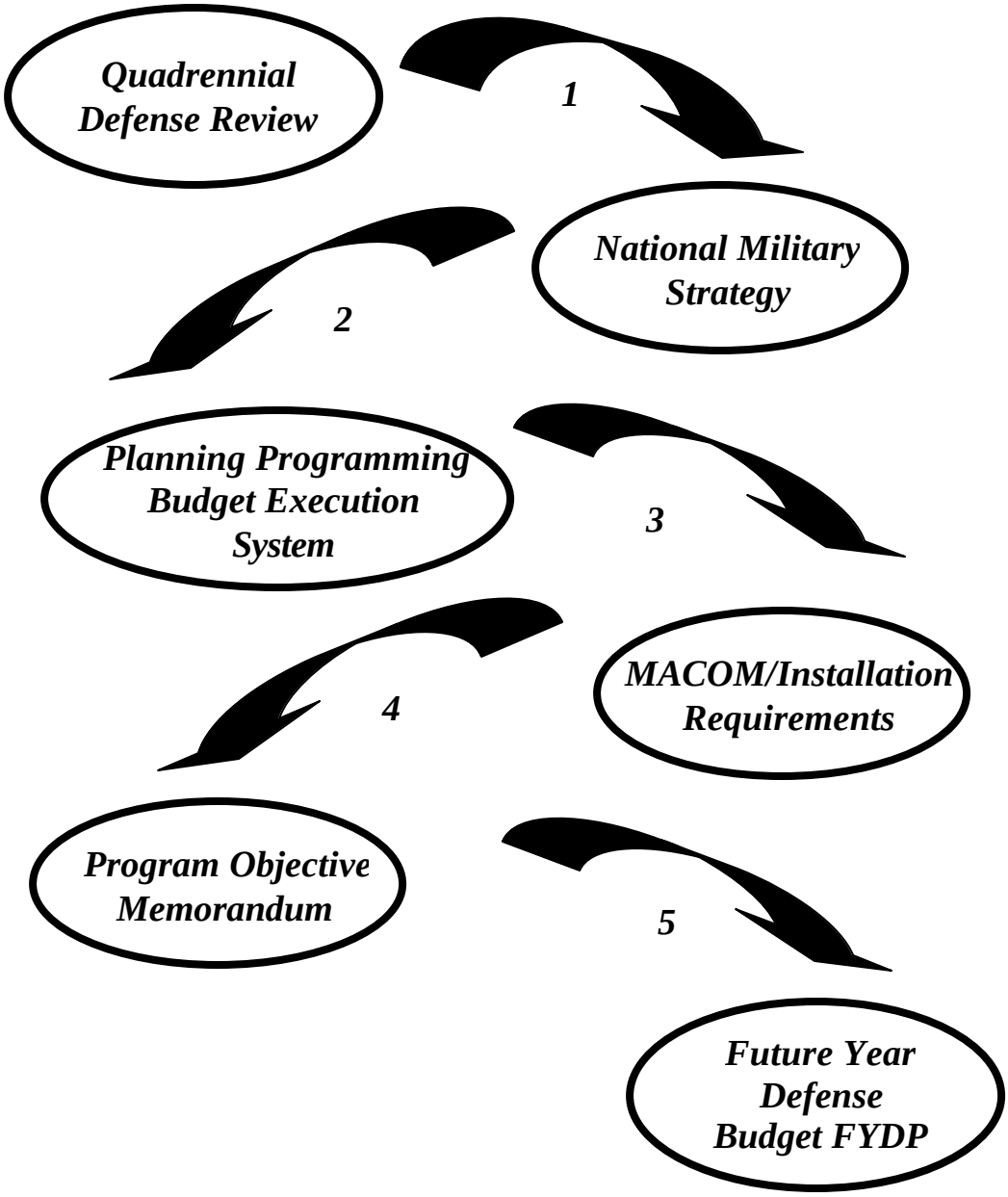
Active	5,029,767	2,256,511	78,300	125,000	203,300
Army Reserve	478,888	156,460	0	9,090	9,090
National Guard	1,793,704	421,835	0	133,630	133,630
FY07 Total	7,302,359	2,834,806	78,300	267,720	346,020

Active	5,107,139	2,301,385	88,000	76,450	164,450
Army Reserve	496,079	159,688	0	5,900	5,900
National Guard	1,815,841	426,546	21,186	158,039	179,225
FY08 Total	7,419,059	2,887,619	109,186	240,389	349,575

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

Source: Military Construction Army Reserve, McBride R. L. LTC, Military Construction Requirements Document, OCAR ACSIM, 28 October 2002, 6-19.

APPENDIX D
CRITICAL THINKING FUNDING MODEL



Source: MMAS Thesis, Arvanites, G. C., Allocation and Apportionment of Funding Resources for Military Construction within the USAR, 6 Jun 03, 28-43.

REFERENCE LIST

Bush, George President. 2002. *National Strategy for Homeland Defense*; (on-line source). Washington, DC: Government Printing Office; available from http://www.whitehouse.gov/news/releases/2002/07/20020716.html; accessed OCT/NOV/DEC.

Groves, John R. 2001. *Crossroads in US Military Capability: The 21st century US Army and the Abrams doctrine*. Arlington, VA: AUSA Institute of Land Warfare.

Haskins, Lawrence A.2002. *Determining the Army National Guard's Role in Homeland Security and How to Reorganize the Guard to Accomplish This Mission*. Carlisle, PA: US Army War College.

Hilton, Clarence. 2001. The Impact of Deployments of the Army National Guard and US Army Reserve on Employer Relationships. Carlisle, PA: US Army War College.

Koplan, Michael D. 1999. *Mobilization's Impact on Army Reserve Family Members*. Carlisle, PA: US Army War College.

Kreuger, Norma J. 2001. *Families of America's Peacekeepers: Their impact on readiness in the 21st century*. Carlisle, PA: US Army War College.

Lippiatt, Thomas F., Michael J. Polich, et al. 1992. *Mobilization and Train-up Times for Army Reserve Component Support Units*. California: RAND Corporation.

Mogen, Eric T. *"The Causes and Costs of Modifications to Military Construction Contracts."* Master's Thesis. Command and General Staff College. Fort Leavenworth, Kansas.17 September 1986.

O'Neill, June E. 1997. *"Structuring the Active and Reserve Army forces for the 21st Century."* Carlisle, PA: US Army War College

Owens, Dallas, D.2001. *AC/RC Integration: Today's success and transformation's Challenge*. Carlisle, PA: Strategic Studies Institute.

Plewes, LTG Thomas. 2001. Address to 377th TSC CS/CSS Conference. New Orleans, LA. 18 August.

Rumsfeld, Doinald H. 2002. *National Military Strategy*. Washington, DC: Department of the Army. (on-line source); available from www.defenselink.mil/speeches or www.us.army.mil; accessed Sept/Oct/Nov/Dec

Reimer, Dennis General, Chief of Staff of the Army.1998. Briefing charts entitled *Commitment to the Future.*

Riker, William H. 1957. *Soldiers of the States: The role of the National Guard in American democracy.* Washington, DC: Public Affairs Press.

Sandler, Roger W. 1993. US Army Reserve Long Range Plan 1993-2023. Washington, DC: US Army Reserve.

Semonite, Todd T. *What Force Structure Best Positions the Divisional Engineer Bridge Company to support River Crossing Operations.* Master's Thesis. Command and General Staff College. Fort Leavenworth, Kansas. 30 October 1991.

Shinseki, Eric K. 2002. *Army Chief of Staff's Vision Statement.* Washington, DC: Department of the Army. (on-line source); available from www.is.army.mil accessed 28 October.

U.S. Army Regulation 11-18. *The cost and economic analysis program.* Washington, DC: Headquarters, Department of the Army. 31 Jan 1995.

U.S. Army Regulation 405-10 *Acquisition of Real Property and interests therein.* Washington, DC: Headquarters, Department of the Army. 14 May 1970.

U.S. Army Regulation 140-483 *Army Reserve Land and Facilities Management.* Washington, DC: Headquarters, Department of the Army. 30 Jul 1994.

U.S. Army Regulation 415-15. *MILCON Program Development and Execution.* Washington, DC: Headquarters, Department of the Army. 4 September 1998

Wedd and Meghan, "*Posture hearing on the FY2003 Budget.* Carlisle, PA: US Army War College. Press release 28 Feb 02.

Wilson, Bennie J. 1985. *The Guard and Reserve in the Total Force: The First Decade 1973-1983.* Washington, DC: National Defense University.

Wimbish, William L. III 1998. *Using Army National Guard Combat Battalions for Peace Operations: A viable alternative for the future.* Carlisle, PA: US Army War College.

INITIAL DISTRIBUTION LIST

Combined Arms Research Library
U.S. Army Command and General Staff College
250 Gibbon Ave.
Fort Leavenworth, KS 66027-2314

Defense Technical Information Center/OCA
8725 John J. Kingman Rd., Suite 944
Fort Belvoir, VA 22060-6218

LTC Albert H. Gledhill, Jr.
Director, RC-Programs
USACGSC
1 Reynolds Ave.
Fort Leavenworth, KS 66027-1352

MAJ Cecil F. McLaurin, Jr.
DLRO
USACGSC
1 Reynolds Ave.
Fort Leavenworth, KS 66027-1352

COL William D. R. Waff
2443 Lawson Blvd
Gurnee, IL 60031-6089

CERTIFICATION FOR MMAS DISTRIBUTION STATEMENT

1. Certification Date: 6 June 2003

2. Thesis Author: Major George C. Arvanites

3. Thesis Title: Allocation and Apportionment of Funding Resources for Military Construction Within the U.S. Army Reserve

4. Thesis Committee Members _____

   Signatures: _____

   _____

5. Distribution Statement: See distribution statements A-X on reverse, then circle appropriate distribution statement letter code below:

A B C D E F X SEE EXPLANATION OF CODES ON REVERSE

If your thesis does not fit into any of the above categories or is classified, you must coordinate with the classified section at CARL.

6. Justification: Justification is required for any distribution other than described in Distribution Statement A. All or part of a thesis may justify distribution limitation. See limitation justification statements 1-10 on reverse, then list, below, the statement(s) that applies (apply) to your thesis and corresponding chapters/sections and pages. Follow sample format shown below:

EXAMPLE

Limitation Justification Statement	/	Chapter/Section	/	Page(s)
Direct Military Support (10)	/	Chapter 3	/	12
Critical Technology (3)	/	Section 4	/	31
Administrative Operational Use (7)	/	Chapter 2	/	13-32

Fill in limitation justification for your thesis below:

Limitation Justification Statement	/	Chapter/Section	/	Page(s)
	/		/	
	/		/	
	/		/	

_____ / _____ / _____
_____ / _____ / _____

7. MMAS Thesis Author's Signature: _____

STATEMENT A: Approved for public release; distribution is unlimited. (Documents with this statement may be made available or sold to the general public and foreign nationals).

STATEMENT B: Distribution authorized to U.S. Government agencies only (insert reason and date ON REVERSE OF THIS FORM). Currently used reasons for imposing this statement include the following:

1. Foreign Government Information. Protection of foreign information.

2. Proprietary Information. Protection of proprietary information not owned by the U.S. Government.

3. Critical Technology. Protection and control of critical technology including technical data with potential military application.

4. Test and Evaluation. Protection of test and evaluation of commercial production or military hardware.

5. Contractor Performance Evaluation. Protection of information involving contractor performance evaluation.

6. Premature Dissemination. Protection of information involving systems or hardware from premature dissemination.

7. Administrative/Operational Use. Protection of information restricted to official use or for administrative or operational purposes.

8. Software Documentation. Protection of software documentation - release only in accordance with the provisions of DoD Instruction 7930.2.

9. Specific Authority. Protection of information required by a specific authority.

10. Direct Military Support. To protect export-controlled technical data of such military significance that release for purposes other than direct support of DoD-approved activities may jeopardize a U.S. military advantage.

STATEMENT C: Distribution authorized to U.S. Government agencies and their contractors: (REASON AND DATE). Currently most used reasons are 1, 3, 7, 8, and 9 above.

STATEMENT D: Distribution authorized to DoD and U.S. DoD contractors only; (REASON AND DATE). Currently most reasons are 1, 3, 7, 8, and 9 above.

STATEMENT E: Distribution authorized to DoD only; (REASON AND DATE). Currently most used reasons are 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

STATEMENT F: Further dissemination only as directed by (controlling DoD office and date), or higher DoD authority. Used when the DoD originator determines that information is subject to special dissemination limitation specified by paragraph 4-505, DoD 5200.1-R.

STATEMENT X: Distribution authorized to U.S. Government agencies and private individuals of enterprises eligible to obtain export-controlled technical data in accordance with DoD Directive 5230.25; (date). Controlling DoD office is (insert).